SMALL SCALE INDUSTRIES BOARD

REPORT
OF THE
TECHNICAL TRAINING COMMITTEE

DEVELOPMENT COMMISSIONER SMALL SCALE INDUSTRIES
MINISTRY OF COMMERCE & INDUSTRIES
GOVERNMENT OF INDIA
NEW DELHI

CHAPTER I

INTRODUCTORY

Appointment of the Committee

Small Scale Industries, for the development of which a sum of Rs. 61 crores has been earmarked in the Second Five-Year Plan, would, it is estimated, provide employment to additional 1·6 lakhs workers. The break-up of this figure into skilled, semi-skilled and unskilled categories is not available, nor is there any information on the supply position of the first two categories. The Small Scale Industries Board has been concerned about shortage of technical personnel which may seriously handicap the achievement of targets of employment and production laid down in the Plan, and, after discussing this problem at more meetings than one, decided on a detailed study of short and long-term measures for devising a planned programme of training technical personnel. Accordingly, at its seventh meeting held on the 17th and 18th September, 1956, it appointed a Committee consisting of the following members:—

1.	Shri P. B. Advani	*Chairman*
2.	Dr. E. Staley	*Members*
3.	Development Commissioner for Small Scale Industries to the Government of India	
4.	Shri R. V. Ramiah	
5.	Shri L. N. Renu	*Member-Secretary*

Co-option of Members

2. Exercising the power given to it by the Board, the Committee co-opted Dr. R. Ewell and Shri H. Davenport as additional members. Shri Satish Chandra assumed charge as Development Commissioner for Small Scale Industries in October 1956 and worked as a member. Dr. E. Staley left for the U. S. A. in June 1957 and could not therefore attend the last three meetings. Dr. Ewell left on the 25th October, 1957, and therefore could not attend the last meeting.

3. Shri G. K. Chandiramani and Shri L. S. Chandrakant of the Ministry of Education and Shri B. N. Datar, Shri N. N. Sen Gupta and Shri A. S. Lall of the Ministry of Labour and Employment, Shri R. Prasad of the Ministry of Home Affairs, and Shri Ashfaque Husain, Shri H. E. Robison and Shri K. L. Nanjappa of the Ministry of Commerce and Industry, were associated with the work of the committee and as advisers and attended several of its meetings.

Terms of Reference

4. The committee was directed to "examine and report on short-term and long-term measures which should be taken for the training of skilled workers and supervisors for small industries." For this purpose the Committee was desired *inter-alia* to :

(i) assess the demand for such workers based on normal wastage and expansion of industrial development during the Second Five-Year Plan period ;

(ii) suggest the types and numbers of special institutions to be extended or newly established ;

(iii) suggest the classes and types of factories suitable for admission of boys and apprentices for training as skilled workers, conditions under which such training should be taken to ensure the admission of the requisite number of boys as apprentices to the factories in question ;

(iv) make proposals for organisation of evening classes for apprentices ;

(v) make an approximate estimate of cost of proposals ; and

(vi) take into consideration all other incidental and connected matters.

Meetings

5. The Committee held seven meetings on the 19th September, 1956, 17th November, 1956, 13th March 1957, 31st May, 1957, 18th September, 1957, 27th September, 1957 and 6th November, 1957.

Collection of Data

6. Available data was collected from Central and State Government departments on :

(a) employment in small industrial units ;

(b) apprenticeship schemes introduced in the public and the private sectors ;

(c) training courses in technical training institutions ; and

(d) estimates of demand for trained personnel.

Sixty-one departments and 587 technical training institutions were approched. A list of those that supplied information is at appendix I.

Survey of Small Units

7. A rapid survey of 410 small industrial units and 83 technical training institutions was also conducted through a special Investigation Team to find out :

1. how far it would be possible to utilise small industrial units for training apprentices and what incentives and assistance will have to be provided to them;
2. how far additional capacity could be developed for introducing evening classes or extra shifts at the existing technical training institutions ; and
3. the industries and trades in which training facilities could be organised early and quickly.

A detailed note on the survey is included in Appendix II.

D. G. R. & E. Data

8. Valuable data was available on existing technical training institutions and apprenticeship and in-plant training courses with the Ministry of Education, and the Directorate General of Resettlement and Exployment of the Ministry of Labour and Employment. Information of interest to our study is given in Appendices III and IV.

Labour Statistics

9. The data available with the Labour Bureau, Simla, was studied by a special team deputed to deduce figures for employment in small registered factories. A report on the data collected is given at Appendix V.

Development Wing Data

10. The data available with the Development Wing for selected large, medium and small-scale units was also studied as per the note in appendix VI.

Definitions

11. We find that different terms have been interpreted differently by different Government departments. We have, therefore, defined some of the terms used by us in Appendix VII.

Acknowledgements

12. Calculations and recommendations contained in this report have been made on the basis of the data available from the sources mentioned above. We are grateful to the different Central Government Departments and Officers who assisted by supplying informations and clarifying points.

13. Our thanks are also due to the Dirctors of Industries of the States of the Punjab, Delhi, U. P., Bihar, West Bengal, Orissa, Bombay, Madras and Andhra Pradesh for the facilities they arranged for a rapid survey of small industries and for lending to our teams the assistance of their own local officers which promoted ready co-operation of the small industrial units.

14. We are specially grateful to the Directorate General of Resettlement and Employment, the Labour Bureau, the Ministry of Education, Dev. Wing, the Planning Commission and the Central Statistical Organisation from whom we collected valuable data.

15. We would like to express our thanks in particular to Sarvashri S. A. Quadir, N. N. Sen Gupta, A. S. Lall and A. N. K. Nair of the D. G. R. & E., Sarvashri G. K. Chandiramani and L. S. Chandrakant of the Ministry of Education, Sarvashri B. N. Datar and D. K. Malhotra of the Planning Commission, Shri S. P. Jain of the Labour Bureau, Simla, Shri A. D. Bohra of the Ministry of Community Develop-

ment, Shri S. Subramanian of the Central Statistical Organisation, Sarvashri L. P. Singh and R. Prasad of the Ministry of Home Affairs, Sarvashri Ashfaque Hussain, H. E. Robison and K. L. Nanjappa of the Ministry of Commerce and Industry gave us valuable suggestions. Our thanks are also due to Sarvashri C. Jagannathachari and J. K. Basak, the Investigation Team and other members of the staff of the Development Commissioner's Organisation who spared no pains in attending to the Committee's work.

16. Investigations leading upto, and preparation of this Report have involved a great deal of work for our colleague and Secretary, Shri L. N. Renu. He has done it very ably and willingly. We wish to record our keen appreciation of his excellent work.

CHAPTER II

ASSESSMENT OF DEMAND FOR SKILLED AND SEMI-SKILLED WORKERS

Estimates of Additional Skilled and Semi-skilled Jobs

17. The demand and supply position of skilled and semi-skilled workers for small industrial units during the Second Plan period has not so far been examined by any authority. The Engineering Personnel Committee of the Planning Commission merely reported that it was "not possible to venture a guess as to the extent of additional training facilities which will be required for the different types of craftsman".

18. It is estimated by the Planning Commission that 10 million additional jobs would be created during the Second Plan period. Assuming that 5 per cent of these would be skilled and semi-skilled jobs in the industrial field, the D. G. R. & E. has estimated their number as 5 lakhs for all industrial sectors including textiles, handicrafts and village industries. If allowance is made for normal wastage and replacement the figures would be higher.

Small Scale Industries :

(a) Expansion Programme

19. The Planning Commission's estimate of additional employment likely to be generated by the Second Plan based on the finding of the village and Small Scale Industries (Second Five Year Plan) Committee, (popularly known as the Karve Committee) is 4·5 lakhs for the cottage and small industries sector. Out of this, the figure for additional employment in the small scale industries sector was 1.6 lakhs, which has recently been revised to 1.4 lakhs owing to a revision in the allocation of funds. As the estimate is based on expenditure to be incurred by Government alone, employment figures will be somewhat higher if account is taken of possible investment by private entrepreneurs. The figure of 1.4 lakhs includes unskilled employees of small factories and the labour force in some of the manually operated industries. Break-up of this figure by different industries or regions or skilled, semi-skilled and unskilled force is not available.

(b) *Replacement*

20. In addition to the above, there would be demand caused by replacement of the existing labour force on account of retirement due to old age, death, accidents, etc. We consulted different organisations including the Central Statistical Organisation and the Labour Bureau, Simla and found that the figures for replacement varied between 4 per cent to 15 per cent. We have, however, accepted the lowest figure of 4 per cent, which is the one suggested by the Central Statistical Organisation. It has not been possible to calculate the replacement demand of small unorganised workshops because data on labour force employed in this sector at the beginning of the Second Plan was not available. Information was available with the Labour Bureau, Simla, for average daily employment in the small registered factories submitting returns during 1954. 1955 figures were not available, but it was ascertained that there was a decline of 7 per cent in employment in small registered factories in that year. Replacement demand of the small registered factories for the Plan period based on these figures comes to 82,000 persons with 1955 as the base year. (Appendix V).

(c) *Skilled and Semi-skilled workers*

21. The repid survey of 410 small units conducted by the Committee showed that on an average, two-thirds of the employees in small units were skilled and semi-skilled workers (Appendix II). The total number of additional skilled and semi-skilled workers required by this sector during the Second Plan would thus be 1.48 lakhs persons (Appendix VIII).

(d) *Wastage during Training*

22. When making arragements for training allowance has to be made for some wastage during the course of the training. In the opinion of the Directorate General of Resettlement and Employment, the average percentage of such wastage could be taken as 20. But the Planning Commission advises that, considering the tight position of the country's resources; the training schemes should be tightened up so as to reduce the wastage to the barest minimum of say, 10 to 15 per cent. Accepting 15 per cent as the permissible wastage, 26,000 additional trainees will have to be accepted bringing the total number to 1.74 lakhs (Appendix VIII)

(e) *Demand for Training*

23. We estimate that arrangements should be made to train 1·74 lakh persons during the Second Plan for the small industries sector alone.

Large and Medium Scale Industries

24. So long as overall shortage of trained personnel continues, the problem of small-scale industries cannot be considered in isolation. If attention is confined to the demand of this sector alone, we run the risk of losing our trained personnel to the large and medium sector. As stated in Para 20, during 1955, employment in the small industries sector was approximately 7 per cent less than in the previous year. An important reason for this reduction in employment figures appears to be that,in the course of its growth, large and medium industry has attracted workers from the small-scale sector by offer of better prospects. This is a matter which has an important bearing on our problem, and deserves careful consideration and study. It is, in any case, a strong indicator that we must consider the problem of training skilled and semi-skilled workers for the entire industrial field in an integrated manner.

(a) *Expansion Programme*

25. The Planning Commission has estimated additional employment of 4.92 lakh persons in the large and medium sector for industries shown in Table (7) as a result of expansion during the Second Plan period. But there is no edequate plan so far for training additional personnel for this sector. We have, therefore, endeavoured to calculate the magnitude of this problem.

(b) *Skilled and Semi-skilled Workers*

26. A study of the data available with the Development Wing for more than 800 large and medium scale industries indicated that the average number of skilled and semi-skilled workers in these factories is about half the total labour force (Appendix VI). It thus appears that the additional demand for trained persons for employment in large and medium sector would be 2.46 lakhs.

(c) *Replacement*

27. An estimate of replacement for skilled and semi-skilled workers in the large and medium scale sector during the

Second Plan period has been based on 1954 figures and worked out in Appendix V. It gives the figure of 1.46 lakhs skilled and semi-skilled workers.

(d) Demand for Training Including Wastage

28. Allowing for wastage of 69,000 persons and replacement of 1.46 lakhs, it appears that arrangements should be made for training 4.61 lakhs skilled and semi-skilled for this sector (Appendix VIII).

Trades and State-wise Break-up

29. As far as is known to the committee, no attempt has so far been made to prepare trade-wise or state-wise break-up of the demand for trained personnel for the industrial sector. During the rapid survey conducted by the Committee, an attempt was made to obtain a rough idea of the trends in selected trades. The date collected in Table 2(b) gives a very rough indication. Similarly, the data tabulated in Table 1 gives a very rough idea of state-wise distribution. An even cross section could not be attempted because of various limitations under which the survey was conducted, but as training schemes are expanded, detailed surveys of different areas will be necessary for getting more accurate figures.

Total Demand for Training

30. To sum up, the training needs of the small scale sector are for 1·74 lakhs workers, while the demand for those industries in the large and medium sector as are included in Table 5 is 4. 61 lakhs. It thus appears that the arrangement for training not less than 6. 35 lakh persons for skilled and semi-skilled jobs should be made to meet the demand of the industries. In arriving at these figures, however, replace-ments in unregistered small units and expansion generated by possible investments in the small sector by private enterprise have not been taken into consideration.

CHAPTER III

TECHNICAL TRAINING INSTITUTIONS

Training of Technical Degree and Diploma Holders

31. There are at present 80 training institutions for degree courses and 125 institutions for diploma courses in engineering and technology. In 1956, these provided facilities for annual admission of 6,300 students for degree courses and 8,800 students for diploma courses. This year (1957) the Ministry of Education has implemented a scheme of expansion of the training capacity of existing institutions, and State Governments have established or are in the process of establishing five new engineering colleges and 23 polytechnics under their Second Plan, besides the three Regional Higher Technological Institutions which are being established by the Central Government in Bombay, Madras and Kanpur during the plan period. The Centre is also giving financial assistance to a number of private bodies which are establishing technical colleges and polytechnics. With all these developments it is expected that by the end of the Second Plan period, viz. 1960-61, technical institutions in the country will be able to admit over 10,000 students for degree courses and 20,000 students for diploma couses per, year, resulting in annual outturn of about 8,000 graduates and over 15,000 diploma holders. The Engineering Personnel Committee and the Ghosh Chandrakant Committee have already gone into the problem of training of technical degree and diploma holders and we do not therefore intend to deal with that problem in our report.

Certificate Courses other than D. G. R. & E.'s

32. The D.G.R.&.E. has been collecting information about technical institutions offering certificate courses and it appears on the basis of figures for 1956 that over 37,800 trainees are admitted every year for such courses in trades as listed in Table 4 (a). This includes the D.G.R.&.E's. capacity for 10,800 trainees at the commencement of the Second Plan. The balance of 27,000 therefore represents annual intake of trainees by other institutions than those run by the D.G.R.&.E. [Table 4(b)]. The number of persons accepted for training by these insti-

tutions would come to 1·35 lakhs during the second Plan period while the outturn of successful trainees, which could be taken to be 85 percent of the in take, would come to 23,000 per year or 1.15 lakhs over the plan [Table 4 (b)].

D.G.R.&.E's Programme

33. The D.G.R.&E. has a programme for expansion of technical training facilities provided by him. Accordingly it is expected that 65,000 trainees will be accepted for certificate courses during the Second Plan period, out of which, allowing for 15 percent wastage, 55,000 will complete it successfully [Table 4 (b)].

Total Certificate Courses

34. Adding the estimates in the previous two paragraphs, 2 lakhs trainees would be admitted for certificate courses during the Second Plan period.

Shortfall in Training Certificate Holders

35. Technical Training Institutions play an important role in meeting the demands of industry for craftsmen. We expect that half of the trained certificate holders may secure direct employment in industry while the remaining half minus 15 per cent wastage, *i.e.* 85,000 persons (Appendix IV), may be available for further training as apprentices. From the information available to the Committee, it appears that in an industrially advanced country like West Germany, only 20 per cent of the total number of candidates recruited for apprenticeship in factories come from technical schools, while the remaining 80 per cent come from elsewhere. Adopting the same basis for our country also, it would appear that 1.07 lakh apprentices out of 5.35 lakhs for whom apprenticeship training has to be arranged vide para 40, will be certificate holders. As indicated above, our supply would be only about 85,000 persons leaving a gap of 22,000 for whom the National Council for Training in Vocational Trades will have to arrange 20, 000 additional seats as worked out in Appendix IV.

No Spare Capacity

36. While examining the possibility of running second shifts or evening classes in the existing institutions, we found that the Ministry of Education is already seized of the problem. The

Ministry of Labour is also utilising all available capacity of existing institutions in view of the acute shortage of building materials and equipment by running second shifts. The number of students on role in the second shift is expected to be half of that in the first shift. At the beginning of the Second Plan period, there were 10,000 seats in the D.G.R. & E. training institutes and more seats have since been added to these institutes which will be in the second shift. D. G. R. & E. has a programme of adding 20,000 seats during the plan period. This will be done by opening new institutes and by expanding the facilities at the existing institutes. Training facilities are being so arranged that half the number will be working in the second shift, i.e. when the target of 30,000 seats is reached, 20,000 will be in the first shift and 10.000 in the second shift. In addition, D.G.R.& E. has to make arrangements for conducting evening classes for about 7,000 persons who will be trained under the Apprenticeship Training Scheme (vide para 39). The possibility of using the capacity of institutions run by the Central and State Government departments and private agencies is also therefore being examined by him. Where existing institutions are not equipped properly and training provided is not up to the standard, attempts are being made to provide necessary facilities and to raise the standard of training.

Evening Classes

37. In Chapters IV and V of this report, proposals have been made for considerable extensions to the orthodox methods of training by providing for apprenticeship in industrial establishments. This training will be quite incomplete unless it is supplemented by theoretical instruction in respect of relevant crafts. For this purpose it is of the utmost importance that suitable day and evening classes are organised in appropriate numbers, in keeping with the number of boys admitted to factories as apprentices. Where arrangements are made for evening classes, the trainees are expected to attend them two or three evenings per week. But this system is now being progressively replaced by day-classes being held for one complete day per week for theoretical training, working two shifts a day. The institution organising such classes is, therefore, able to accept 12 batches a week. 4,000 seats would, therefore, be required for 48,000 apprentices and 14,000 seats for 1.70 lakh apprentices (vide para 45).

CHAPTER IV

APPRENTICESHIP AND IN-PLANT TRAINING IN FACTORIES

Available Data

38. Information was collected by us from Central Government departments on apprenticeship courses introduced in State-owned factories. Those that reported are training 2,369 apprentices as per statement contained in Table 3 (a) over an average period of 2½ years. The D.G.R. & E. has attempted to collect data with regard to apprenticeship courses introduced by industrial concorns, both in the public as well as the private sectors. But, though his coverage is limited, he has estimated that training is being provided to about 30,000 apprentices including 1,500 technical graduates and diploma holders covered by the training programme of the Ministry of Education. On the assumption that the average period of training is 2½ years, 60,000 apprentices would be put through it during the Second Plan period [Table 3(b)].

D.G.R.& E. Programme

39. The D.G.R. & E. has recently introduced an apprenticeship programme for training 7,050 persons. Where any of them has not undergone any course of technical training, arrangements are being made for theoretical instruction in essential subjects in evening classes.

Programme Falls Short of Demand

40. The total number of apprentices covered by the D.G.R.& E's and other courses during the Second Plan period is therefore estimated at 67,000. The estimated demand of personnel for whom training arrangements are necessary is for 6.35 lakh persons (Appendix VIII). Assuming that 1 lakh out of the persons going through technical training institutions, could be absorbed directly by factories, the balance left for coverage by apprenticeship training would be 5.35 lakhs. The present apprenticeship programme, therefore, falls far short of the requirement.

Demand of New Establishments

41. It appears that new establishments are meeting the bulk of their demand by attracting workers from the existing industry on better terms.

Unorganised Training Arrangements by Factories

42. We understand that at present factories are meeting their replacement demand by recruiting new persons and placing them as under-studies under more experienced workers till they are able to handle their jobs independently. The unskilled worker is thus given an opportunity to become semi-skilled, and the seme-skilled for becoming skilled. This process could be carried up to a point beyond which it will inevitably result in lowering of standards, because this is an unorganised arrangement under which no training norms are applied. Besides, it offers opportunity for exploitation of labour. It is, therefore, imperative to improve upon this arrangement by the introduction of a regular apprenticeship training programme in all the factories.

Proportion of Apprentices to Employees

43. Industry has so far been left to make some kind of an arrangement for regular apprenticeship courses as well as unorganised training of 5.35 lakh persons (vide para 40) over a period of five years or an average of 1.07 lakhs per year. The average period of trainning for organised courses in factories is 2½ years, but considering the unorganised nature of these arrangements, even if this period is reduced to 2 years, the number of apprentices at any one time would be 2.14 lakhs, which is 11.5 per cent of their total labour force of 18.66 lakh workers (1955 figure) and 21.4 per cent of the strength of their skilled and semi-skilled employees numbering 10·02 lakhs.

Expansion of Apprenticeship Programme

44. We feel that under an organised apprenticeship training programme factories should, without undue difficulty, be able to accept apprentices upto 5 per cent of their total labour force or 10 per cent of the strength of their skilled and semi-skilled employees. In case factories could be persuaded to introduce organised courses for apprentices in the above ratio,

capacity for training 93,000 persons could be developed. As this will fall far short of the demand, consideration should be given to the possibility of factories introducing organised courses for apprentices equalling 11.5 per cent of their labour force, which they have been left to do under some kind of arrangements of their own.

45. 30,000 seats are already being utilised by the existing programmes and 7,050 additional seats will be required by the D. G. R. & E. for his apprenticeship training scheme. Another 7,500 seats will be required by the D.G.R.&E. for his craftsmen trainees whose course includes six months, in-plant training. These programmes total up to 44,550 seats. The difference between this figure and that for the capacity that could be developed as per paragraph 44, would be the unearmarked capacity which would be available for other apprenticeship schemes. As Table 3 (c) shows such capacity would be 48,000 on the basis of the total developed capacity being 5 per cent of the total labour force, and 1.7 lakh if the total estimated requirements are to be met.

Classes & types of factories

46. One of our terms of reference calls for suggestions about classes and types of "factories" which would be suitable for admission of youngmen as apprentices. The Chairman of this Committee who was responsible for drafting the terms of reference contained in paragraph 4, however, explained that his intension was to ask for suggestions about the classes and types of "industries", and not "factories." We feel that the types and classes of industries surveyed by our teams and listed in Tables 2 (a) and 2(b) are quite suitable for apprenticeship training schemes. As far as individual factories are concerned it was felt that the appropriate authority would later have to carry out a survey prior to introduction of compulsory apprenticeship scheme in any particular industry.

CHAPTER V

EXPANSION OF TRAINING PROGRAMME

Replacement of Unorganised Training by an Organised Programme

47. In para 30 we arrived at the conclusion that not less than 6.35 lakh persons require to be trained for skilled and semi-skilled jobs to meet the expansion and replacement demands of the large, medium and small industries during the Second Plan period. We also estimated in para 34, that 2 lakh trainees would be admitted for certificate courses during the same period in teahnical training institutions, out of whom half would be absorbed directly in the industry after completing the training, while the other half would be available for further training as apprentices. In para 40 we further estimated that about 67,000 apprentices would be admitted to regular apprenticeship training schemes during the plan period, and noted in para 42 that industry is meeting the remaining demand of 4.68 lakhs by making unorganised training arrangements. We are of the opinion that it is not in the interest of sound industrial development to continue such unorganised arrangements for training, which should be replaced by a planned and properly organised training programme to meet the demand of such a high order. For this purpose, necessary facilities should be provided to factories.

Expansion of Apprenticeship Seats

48. We recommend that the programmes for organised apprenticeship training should be expanded to cover in the first instance 5 percent of the labour force in large, medium and small factories and arrangements made for additional apprenticeship capacity of 48,000 seats as calculated in para 45. This might be done by increasing the number of apprenticeship courses organised by the D.G.R.& E. and other agencies in consultation with and under the guidance of the National Council for Training in Vocational Trades.

Programme for 1958-59 and 1959-60

49. The preliminary arrangements for the above proposal will require considerable time and organisational effort. We,

therefore, suggest that by the end of the current year (1957-58), the Ministries concerned like the Ministry of Education, Ministry of Labour and Employment and other agencies should try to reach the targets that they have set for themselves for their present apprenticeship programme, so that, 45,000 apprenticeship seats are found in factories. During 1958-59 and 1959-60 additional 18,000 and 30,000 seats respectively, should be developed to reach the total of 93,000 by 1959-60.

Expand by 1.7 Lakh Additional Seats Ultimately

50. The above proposal would fall far short of requirement and as the next step, arrangement should be made for apprenticeship training of 11.5 per cent of the labour force. The programme indicated in para 48 should then be expanded by an additional 1.21 lakh apprenticeship seats so as to achieve the targets of additional 1.70 lakh seats mentioned in para 45. This would, in practice, mean that factories will have to accept a total of 2.14 lakh apprentices, *i.e.*, 21.4 per cent of the strength of their skilled and semi-skilled employees. We are aware of the fact that for one reason or the other certain factories would be unsuitable for training. This would not, however, materially affect the above percentages since certain other factories would be in a position to take more than the average number of trainees. The programme outlined in this paragraph could be developed in 1960-61.

Compulsion

51. While an increasing number of factories may agree to replace their unorganised training arrangements by courses organised under the auspices of the National Council for Training in Vocational Trades, it may be found that some factories do not voluntarily subscribe to this approach. It was, therefore, considered necessary to introduce compulsion under an Act of Parliament, whereby factories will be required compulsorily to admit a number of persons equalling a prescribed percentage of their total labour force for apprenticeship training. We considered the question as to whether it may be possible for us to recommend to the Government that compulsion should be introduced after a reasonable period of say 2 years, during which factories may be invited to introduce the scheme voluntarily. But, in view of the considerable time that has already elapsed since this question

first came up before Government for consideration, and the pursuasive effort that the Ministries of Education, and Labour and Employment have already put in this direction, without much success, we are convinced that any further time allowed for voluntary introduction of the proposed scheme would not be justified in view of our imperative needs of trained men under the Second and subsequent Five-Year Plans. We, therefore, recommend strongly that Government take necessary steps without avoidable delay, for passing by the Parliament an Act, under which factories will be required compulsorily to have under apprentice training a number of persons equalling the prescribed percentage of their total labour force. In view of the shortage of instructors, machinery and building materials, etc., we are of the view that compulsion may be introduced industry by industry, and recommend that the Engineering industry should be in the first set to which compulsion should apply. The percentage of the labour force and industries to which compulsion may apply from time to time may be prescribed by the Rules to the proposed Act.

Cess

52. We also examined a suggestion that the desired result may probably be achieved, as in France, by the levy of a cess for training on registered factories, with a provision for exemption of such factories as introduce apprenticeship training programme, to the extent of their actual expenditure on this account. But the incidence of this levy by its nature cannot be high, and we apprehend that some factories may prefer payment of the cess to making apprenticeship arrangements, thereby causing reduction of available training capacity. As we regard the training arrangements as of far greater importance than collection of the cess, we eventually rejected the suggestion regarding imposition of a levy.

Separate Training Section Attached to Factories

53. When the recommendation referred to in para 50 is implemented, factories should be assisted to set up separate training sections, providing 1.21 lakh seats with additional equipment and suitably qualified staff. When these sections are established, the apprentices in a factory will take turns to attend the Training and production section at different intervals. We realise that in implementing the proposal to set up separate training sections, difficulties will have to faced because of the

acute shortage of building materials and equipment. It may, therefore, be advisable to initiate arrangements for establishment of 30,000 seats during 1958–59, another 40,000 seats during 1959-60 and the remaining 51,000 during 1960-61. Even if these efforts do not yield full results during the Second Plan period, the arrangement will come handy for the expansion programme during the Third Plan period.

Average Period of Training

54. While fully realising the importance of allowing sufficiently long periods of apprenticeship, we recommend that the average period of training should be brought down from 2½ years to 2 years as a temporary expedient to meet the present exigency.

Expansion of Institutional Training

55. As mentioned in para 35, in our opinion, attempts should be made to recruit at least 20 per cent of apprentices from technical schools. The National Council for Training in Vocational Trades should, therefore, examine the possibility of expansion of the present programe of institutional training by 20,000 additional seats. We suggest that efforts should be made to develop 4,000 additional seats during 1958-59, 6,000 additional seats during 1959-60 and 10,000 seats during 1960-61. This will necessitate acceptance of a larger number of non-certificate holding apprentices for a year or two, but would ultimately prepare the ground for achieving the target of 20 per cent of the apprentices being certificate holders.

Evening Classes

56. Provision for training of apprentices in the theory of crafts is of fundamental importance and arrangements should therefore be made for running day-time or evening classes for them, preferably the former. To this end an additional 14,000 seats should be provided. It may be noted that each institution will entertain 12 batches of apprentices a week on the basis of two shifts a day (vide para 37). Following the phasing of apprenticeship programme in pars 48 and 50, the number of seats that should be developed for evening classes would be 1,500 during 1958-59, 2,500 during 1959-60 and 10,000 during 1960-61.

Instructors for Apprentices

57. We should emphasise that there is a great shortage of instructors for both institutional schemes as well as apprentice-

ship schemes. This, coupled with shortage of equipment, is decidedly the main stumbling block and deserves serious attention. We feel that the ideal thing would be to provide one instructor for 10 apprentices, but, in the present circumstances however, of stringency of finance and paucity of men, so far as requirements of small-scale industries sector under our short-range proposals are concerned, we have, as mentioned in the next chapter, made a provision for the training of instructors at the rate of one for each batch of fifteen trainees in the Government workshops. At this rate, the number of instructors required to cover the apprenticeship programme is estimated at 14,267.

Instructors for Technical Training Institutions

58. We learn that the D. G. R. &. E. is providing one instructor for every 16 students in his technical training institutes. The number of instructors required for 20,000 seats in technical training institutes and 14,000 seats for theory classes for apprentices would be 2,125.

High Priority required for Training Instructors

59. The total number of instructors required would thus be about 16,400 of whom 20 per cent would be in the grade of Rs. 350-25-500-30-800, 60 per cent in the grade of Rs. 275-25-500 and 20 per cent in the grade of Rs. 120-8-200 We suggest that the National Council for Training in Vocational Trades should prepare a properly phased programme for training of instructors and work out details of the training programme, including the cost of the programme. This pogramme should receive a high priority and arrangements should be made for training at least 3,000 instructors during 1958-59, 6,000 instructors during 1959-60 and the remaining 7,400 instructors during 1960-61. Even if these targets are successfully acheved, the apprenticeship programme will have to continue with only a part complement of instructors for some time. It would, however, be poisible to catch up with the requirements for instructors by the end of the Second Five-Year Plan.

Recurring Cost of D.G.R. & E. Scheme

60. The recurring expenditure per apprentice per month under the apprenticeship training scheme of the Directorate General of Resettlement and Employment, for training skilled and semi-skilled workers is as follows :-

(i)	Establishment (part-time staff like Principal, Clerk and Workshop Attendant, Class IV Staff); Fees for part-time lecturers; apprenticeship adviser and supervisor etc.	Rs. 8.50
(ii)	Stipends to apprentices (average)	Rs. 40.00
(iii)	Trade test charges (for trade test of apprentices)	Rs. 1.00
(iv)	Cost of training materials tools, wastage, etc.	Rs. 15.00
(v)	Hostel facilities (rent for hostel, taxes, electricity and water and other charges, staff etc.) @ Rs. 5/- per trainee per month for 50% of apprentices *i.e.* at Rs. 2/8/- per trainee per month (when taken full strength) for budget calculation.	Rs. 2.50
		Rs. 67.00

Recurring Cost of Apprenticeship Training

61. The D. G. R. & E's figure mentioned above includes the recurring cost on evening classes, but does not include the cost of instructors to impart necessary training to apprentices in factories. Allowing for emoluments at the rate of Rs. 25/- per month per apprentice (Appendix IX), the total recurring cost per month per apprentice would be Rs. 92/-. The total recurring cost on this account during the last three years of the plan would be as follows :

1958-59	18,000	×	92	×	12	=	Rs. 198·72 lakhs
1959-60	48,000	×	92	×	12	=	Rs. 529·92 ,,
1960-61	1,70,000	×	92	×	12	=	Rs. 1876·80 ,,
							Rs. 2605.44 lakhs

Non-recurring Cost of Ministry of Education's Scheme

62. We learn that the non-recurring cost (excluding the cost of land) of the Ministry of Education on degree and diploma holders is as follows :

	Buildings (excluding land) Rs.	Cost of equipment & furniture Rs.	Total Non recurring-cost Rs.
(1) Degree holders	3,125	3,542	6,667
(2) Diploma holders	2,083	2,528	4,611

Non-recurring Cost of D G.R. & E's Schemes

63. We are giving in Appendix IV the non-recurring cost per seat in the D. G. R. & E's institutes for different trades. The average cost per seat comes to :

Tools and equipment	Rs.	2,185/-
Land and building	Rs.	1,500/-
Other non-recurring	Rs.	90/-
Total non-recurring	Rs.	3,775/-

Non-recurring Cost of Separate Training Sections in Factories

64. Taking into account the fact the separate training sections attached to factories would require more equipment than is provided in a technical training institution, and also the fact that the cost of equipment is increasing, we estimate the average non-recurring cost per apprentice in a training section attached to a factory at Rs. 4,000/-. The non-recurring cost for providing 1.21 lakh seats in these sections would thus be Rs. 12 crores for 30,000 seats in 1958-59, Rs. 16 crores for 40,000 seats in 1959-60 and Rs. 20.40 crores for 51,000 seats in 1960-61

Non-recurring Cost of Theory Classes

65. The non-recurring cost for providing seats for theoretical classes would be Rs. 1,500/- for buildings, etc. and Rs. 90/- for other non-recurring items per seat. The cost for providing 1,500 seats in 1958-59 will be Rs. 23.85 lakhs, 2,500 seats in 1959-60 Rs. 39.75 lakhs, and 10,000 seats in 1960-61 Rs. 159 lakhs.

Cost of Additional Seats in Technical Training Institutions

66. As mentioned earlier, the average non-recurring cost per seat in the D. G. R. & E's institute is Rs. 3,775/-. The D. G. R. & E. has calculated the average recurring cost per student as Rs. 60/- (Appendix IV.) The non-recurring cost of providing additional seats in technical training institutions would thus be Rs. 151 lakhs for 4,000 seats in 1958-59, Rs. 226.5 lakhs for 6,000 seats in 1959-60 and Rs. 377.5 lakhs for 10,000 seats in 1960-61. The recurring cost would be as follows :

	No. of Seats	*(Rs. in lakhs)*
1958-59	4,000	28.80
1959-60	10,000	72.00
1960-61	20,000	144.00
	Total	244.80

Administrative Machinery

67. The administrative cost of this programme up to the State level has already been included in the calculations of the D. G. R. & E. (Rs. 67/- per seat). Over and above that, some expenditure would be incurred for providing administrative machinery at the Centre for implementing these proposals. As to-day the apprenticeship programmes are organised by more than one Ministry, we have not attempted to work out details of the set-up. The estimates on this account may be prepared by the appropriate authority.

Incentives

68. The funds for separate training sections attached to factories would come either from private sources or governmental sources. In either case, industry would be justified in demanding certain subsidies to meet depreciation, maintenance charges, etc. A short note on suggestions received from small industrial units on facilities that would act as incentives is given in, Appendix II. We find these suggestions generally reasonable, but as this involves a question of policy concerning different Ministries introducing apprenticeship schemes, the question may be considered by the National Council for Training in Vocational Trades.

Summary

69. To sum up, (a) the programme for training skilled and semi-skilled workers for large, medium and small-scale industries during the remaining Second Plan period should include :

(1) arrangements to place apprentices for training in factories in the following order :

1958-59	18,000
1959-60	.30,000
1960-61	1,21,000

(2) provision of extra seats in training institutions for theoretical training of apprentices in the following order :

1958-59	1,500
1959-60	2,500
1960-61	10,000

(3) establishment of separate training sections attached to factories for providing seets in the following order :

1958-59	30,000
1959-60	40,000
1960-61	51,000

(4) provision for additional seats for certificate courses in technical training institutions in the following order :

1958-59	4,000
1959-60	6,000
1960-61	10,000

(5) arrangements for training insuructors in the following order :

1958-59	3,000
1959-60	6,000
1960-61	7,400

(b) The total cost for setting up seprate training sections n factories and for providing theoretical classes for apprentices and additional seats for certificate holders in technical training institutions would be as follows :

	1958-59	1959-60	1960-61	Total
	(Rupees in lakhs)			
Non recurring	1,375	1,866	2,576	5,817
Recurring	227	602	2,021	2,850

The cost of administrative set up at the Centre and the cost of training instructors may be worked out by appropriate authorities.

IMMEDIATE TRAINING PROGRAMME FOR SMALL INDUSTRIES SECTOR

Need of Immediate Proposals

70. Acceptance and implementation of the proposal made by us in the previous chapter will, perhaps, take some time. We, therefore, examine in this chapter the possibility of introducing an immediate programme for training of a small number of persons for small-scale industries.

Categories of Persons to be Trained

71. Immediate arrangements have to be made for training the following categories of persons for small industries :—

(i) skilled and semi-skilled workers ;
(ii) instructors ; and
(iii) those who can fit in as supervisors or as entrepreneurs.

Qualifications of Candidates

72. Technical degree or diploma holders would be the most suitable trainees for the second and third categories, but, in view of an increasing demand for such persons in other sectors, a sufficient number of them may not be available. In that case, the next choice should fall on graduates in chemistry or physics.

73. For the first category, certificate holders from a technical institution would be the best choice, but as there may be acute shortage of certificate holders, matriculates or near-matriculates wanting employment will have to be the next choice. For degree, diploma or certificate holders, the apprenticeship course for fitting them for responsible jobs in factories will, of course, be of a shorter duration.

Stipends for Small Industries

74. We are of opinion that if candidates of good calibre are to be attracted to the small-scale industrial field, during apprenticeship period. A stipend of Rs. 200/-per month should be paid to technical degree holders, Rs. 150/- to technical

diploma holders, Rs. 100/-per month to science graduates, Rs. 60/- per month to certificate holders and Rs. 40/- per month to matriculates and others.

Average Period of Training

75. For the requirements of small-scale industries technical degree and diploma holders should undergo one-year apprenticeship training and science graduates in physics or chemistry—2 years, to fit them as supervisors or entrepreneurs. Technical certificate holders would require 9 months' apprentice training for semi-skilled jobs and near-matriculates and others 2 years.

Sandwich Course of the Ministry of Education

76. The Ministry of Education has introduced a programme of practical training for graduates and diploma holders for periods ranging from 1 to 2 years for conditioning them for gainful employment in industries. Under the programme about 1,500 graduates and diploma holders are placed for training in industrial establishments, government departments and other organisations every year for practical training to fit them for employment in large and medium scale factories. A special course is required for the small industrial sector to impart training in all aspects of manufacture of a particular item to prospective entrepreneurs.

Instructors Course of the Ministry of Labour

77. The Ministry of Labour has introduced a training course for instructors, for which one institute has been running for a number of years, and another is about to be opened. The output of instructors is limited owing not only to shortage of equipment, but also to that of instructor trainees. The level of emoluments of instructors at present is generally low, and therefore unattractive to skilled men who earn better wages by working in industrial establishments than by taking up instructional work. This impediment will have to be overcome if sufficient instructors are to be found for the large number of trainees required for the Second Five-Year Plan.

Another Agency

78. In Chapter V, we have already proposed fairly big institutional and apprenticeship programmes to be introduced by

the existing training agencies. It appears to us that with all their efforts and resources they will be achieving only a small proportion of the targets that we have proposed above. We are, therefore, suggesting below utilisation of another agency to a limited extent and for a limited period until other agencies catch up with the targets.

Common Facility Workshops of the Ministry of C. & I.

79. The Ministry of Commerce and Industry has set up four Regional Small Industries Service Institutes, twelve Major Institutes and two Branch institutes all over the country. In addition, 60 Industrial Extension Centres are being established in different towns. These Institutes and Centres are located at centres of small scale industries, are manned by qualified technical staff and will be equipped with modern machinery. Many of them will have attached to them common facility and pilot production workshops, which could suitably be utilised for introducing an immediate programme of apprenticeship training to catergories (i) and (ii) mentioned in para 71. It would not be possible to train supervisors and entrepreneurs at these centres because workshops may not be fitted for production of complete items.

Apprenticeship Capacity of Common Facility and Pilot Workshops

80. On an average each common facility or pilot workshop attached to the Industrial Extension Centre could accept 10 certificate holding apprentices. With additional equipment it should be possible to admit 50 apprentices at each workshop. The major and branch institutes should be able to accept 20 apprentices, rising to 100 with the additional equipment and staff provided specially for training. For the Regional Institutes the corresponding number would be 30 and 150.

Production Centres of the Ministry of C.& I.

81. The Ministry of Commerce and Industry is also setting up 17 production Centres for the benefit of educated unemployed. These Centres which would employ 300 persons on an average and would be equipped with up-to-date machinery, qualified staff and other facilities, can be used for training persons in categories (i) and (iii).

Apprenticeship Capacity at Production Centres

82. The production Centres under consideration are owned by Government which can take greater risks and make greater efforts than other factories. These Centres should reasonably be expected to admit trainees up to 20 per cent of their strength and to provide training to 60 persons, 50 of whom may be trainees for jobs under cateogory (i) and 10 for jobs under category (iii)

Separate Sections

83. It would, however, be necessary to set up separate sections similar to those proposed for other factories in para 53 with separate equipment and separate staff, but linked with the main production workshop.

84. The Production Centres would not be paying commercial concerns for some time. To begin with, their employees would themselves be freshers. It may be questioned as to whether it would be advisable to make these Centres responsible for training additional personnel during the first few years when their normal labour force would itself be new to the job and the managers would have the responsibility of building up a new concern. We are of the opinion that if these Centres could undertake to work with 300 fresh persons and train them, they could as well work with 360 persons.

Instructors

85. As explained in para 57, it would be necessary to place one qualified technician in charge of each batch of 15 trainees. He would be responsible for their training and for ensuring that they are not employed for other than the prescribed purpose. He should be a man with workshop experience, preferably with knowledge of teaching procedure. At the Production Centres, where training would be imparted to degree and diploma holders, it would be necessary to have deputy managers in charge of training in the grade of Assistant Directors in the Institutes.

Trades

86. Training facilities should be provided in only those trades for the development of which the particular common facility or pilot workshop or production centre has been set up.

Liaison with D.G.R.& E.

87. While the programme may be fully financed and managed by the Ministry of Commerce and Industry, and training facilities provided in workshops set up by that Ministry, the course may be organised under the general pattern laid down by the National Council for Training in Vocational Trades and liaison maintained with the D.G.R.& E. for development of training programmes.

Comparative Statement

88. The above-mentioned programme will be limited by:

(a) the time taken in establishment of the different workshops ;

(d) availablity of persons for training ; and

(c) the local demand for additional number of workers in that particular industry.

Table 2(d) was prepared to analyse how far these limitations would apply in towns (i) where Institutes and Centres, etc. are being set up and (ii) which have been covered by the rapid survey. Data available from the D. G. R. & E. on the number of matriculates, intermediates, etc. seeking employment in most of these towns were also included. It will be observed from this Table that locations of Centres have been decided upon till now in 68 towns. Of these, 28 towns were surveyed for anticipated expansion. The remaining towns will have to be surveyed before the programme is implemented.

Cost of Training in Workshops Attached to Extension Centres, etc.

89. The cost of implementing the above recommendations would be as follows (Appendix IX) : —

Recurring

1.	Instructors	Rs. 6.80 lakhs rising to 18.77 lakhs.
2.	Stipend	Rs. 16.38 lakhs rising to 45.18 lakhs per year
3.	Raw materials	Rs. 3.64 lakhs rising to 10.84 lakhs.

Non Recurring

4.	Additional equipment and buildings	Rs. 240·8 lakhs.

Apprenticeship Training by Small Industrial Units

90. 200 small industrial units of the 410 included in the rapid survey were found suitable for introduction of apprenticeship programmes and they offered to train 1,246 candidates. The D. G. R. & E. has been requested to take advantage of these offers under his apprenticeship training scheme.

Proprietor-Manager Apprentices

91. We are of the opinion that 250 graduates and diploma holders could be trained every year by placing them in small factories where they can learn all aspects of the manufacture of particular items so that they could be fitted as supervisors of entrepreneurs. Qualifications, period of training, stipend, etc. of these trainees should be similar to those proposed for similar trainees at the Government Production Centres. Incentives to be offered and the amount to be paid to industrial units to cover training expenses, etc. should be on the same lines as are proposed by the Ministry of Labour and Employment for their appreticeship training scheme. Unless D.G.R.&E. undertakes to introduce such a training scheme, it may also be entrusted to the Development Commissioner for Small Scale Industries. Assuming that about one-third of the trainees would be technical degree holders, one-third technical diploma men and the balance science graduates, the average cost per trainee per month would be as follows :

1.	Stipend	Rs.	150/-
2.	Establishment, Raw Materials, etc.	Rs.	27/-
3.	Instructors	Rs.	25/-
	Total	Rs.	202/-

The expenditure over training 250 persons would thus be Rs. 6 lakhs per year.

Instructor Trainees

92. In addition to the number of persons that would be trained under the programme of the D. G. R. & E., the Small Industries Service Institutes, their Branches, and the Industrial Extension Centres could also be used for training instructors required under the development programme for small scale industries. Two or three technical degree or diploma holders can be attached to each Institute or Centre as under-studies to technical officers and an additional stipend of about Rs. 20/- per month could be granted to them, provided they agree to enter into a bond to serve as instructors for a period of not less than three years after completing training. Where foreign experts are appointed, similar under-studies could be placed with them also. It would be necessary for the Institutes to arrange two to three months' separate courses for such instructor-trainees to coach them in the instructional procedures and methods. We expect that 200 instructors could be trained by the end of the Second Five-Year Plan by these agencies. The cost per instructor-trainees per month would be as follows :

1. Stipend	Rs.	170
2. Establishment etc.	Rs.	27
3. Instructors	Rs.	25
	Rs.	222

The annual cost of training 200 Instructors would be about Rs. 5.33 lakhs.

Summary

93. To sum up (1) an immediate programme can be started at the Common Facility and Production Workshops being established by the Ministry of Commerce and Industry for training:

(*i*) 1,850 skilled and semi-skilled workers in the first year and 5,850 workers when capacity is fully developed. (Appendix IX) ;

(*ii*) 200 instructors by placing them as under-studies with the directors of the Small Industries Service Institutes, Extention Centres, etc. ;

(*iii*) 170 persons who can fit in as supervisors or as entrepreneurs; and

(2) arrangements should be made for training an additional number of 250 persons per year in small industrial factories where they can learn all aspects of manufacture or particular items to fit them as supervisors or entrepreneurs of small units.

(3) The cost of this programme would be Rs. 240.8 lakhs non-recurring and Rs. 86.17 lakhs recurring per year (Appendix IX)

CHAPTER VII

CONCLUSIONS

Demand of Small Sector

94. The demand for skilled and semi-skilled workers for the small industrial sector for expansion, replacement and normal wastage, during the Second Plan period, is estimated at 1.74 lakhs (para 23).

95. Because the existing programme for training falls far short of the total demand of industries, the small industrial sector runs the risk of losing its skilled and semi-skilled workers to the large sector unless adequate arrangements are made for the latter also (para 24).

Demand of Large, Medium and Small sectors

96. Arrangements should be made for training 6.35 lakh persons for skilled and semi-skilled jobs to meet the total expansion and replacement demands of the large, medium and small scale industries sectors after allowing for wastage during training (para 30).

Institutional Training

97. Arrangements have been made for training two lakh persons in technical training institutions under the existing and proposed programmes. Half of these may be expected to secure direct employment in factories and the other half may be available for further training as apprentices (para 34-35).

No Spare Capacity in Existing Institutions

98. No spare capacity would be available for running additional second shifts or evening classes at the existing technical training institutions after meeting the requirements of expansion programmes of the Ministries of Education; and Labour and Employment (para 36).

Expansion of Institutional Training

99. Following the example of industrially advanced countries, 20 percent of the total number of apprentices may be recruited

from technical schools. As the present institutional training programme will fall short of meeting this demand, the National Council for Training in Vocational Trades should examine the possibility of expansion institutional training programme to provide an additional 20,000 seats, preferably under the D.G.R.&E. programme for training certificate holders. Of these, arrangements should be made to provide 4,000 seats during 1958-59, an additional 6,000 seats during 1959-60 and the remaining 10,000 seats during 1960-61 (paras 35 and 55).

Present Apprenticeship programme

100. About 67,000 apprentices would be accepted for training under regular apprenticeship schemes during the Plan period under the existing and proposed programmes (para 40).

Programme Falls Short of demand

101. Assuming that 1 lakh out of the persons going through technical training institutions could be absorbed directly by the factories, the balance left for coverage by apprenticeship training would be 5.35 lakhs. The present apprenticeship programme, therefore, falls far short of the requirements (para 40).

Unorganised Training by Factories

102. Industry is meeting the remaining demand by unorganised training arrangements. This will lead to lowering of standards of workers available for expansion and replacement (para 42).

Replace Unorganised Arrangements by Organised Courses

103. A planned and properly organised training programme should, therefore, replace the unorganised training arrangements and necessary facilities provided to factories for this purpose (para 47),

Classes and Types of Industries

104. The classes and types of industries and trades which will be suitable for admission of apprentices for training as skilled workers may be seen in tables 2(a) and 2 (b) (para 46).

Upto 5% of the Labour Force First

105. Programmes for apprenticeship training should be expanded to the extent of five percent of the labour force in large,

medium and small factories and apprenticeship capacity of 93,000 seats developed in the first instance under the guidance of the National Council for Training in Vocational Trades. Of this arrangements for 45,000 seats should be completed by the end of the current year (1957-58), another 18,000 seats developed during 1958-59 and 30,000 additional seats during 1959-60 (paras 48 and 49).

Upto 11·5% of the Labour Force Ultimately

106. An additional 1.21 lakh seats should be developed during 1960-61, bringing the total number of seats for training of apprentices to 2.14 lakhs, which is 11.5 percent of the labour force (paras 44 and 50).

Average Period of Training

107. The average period of training may be brought down from 2½ years to 2 years to meet the present exigency (para 54).

Conditions under Which Training should be Provided

108. Factories should be assisted to set up separate sections for training with additional equipment and suitably qualified staff attached to the production workshops to enable them to accept apprentices up to 11.5 percent of their labour force (para 53).

Phasing of Establishment of Training Sections

109. Arrangements should be initiated to establish training sections with 30,000 seats during 1958-59, an additional 40,000 seats during 1959-60 and the remaining 51,000 seats during 1960-61 (para 53).

Measure to Ensure Admission of Requisite Number of Apprentices

110. It will be necessary to introduce a compulsory training scheme under an Act of Parliament, whereby factories will be required compulsorily to admit a prescribed percentage of their total labour force for apprenticeship training. Compulsion may be introduced by stages, industry by industry and the engineering industry should be in the first set to which compulsion should apply (para 51).

Training of Instructors

111. There is a great shortage of instructors for both institutional schemes as well as apprentice schemes. The National Council for Training in Vocational Trades should prepare a phased programme for training of instructors which should receive a high priority and arrangements should be made for training at least 3,000 instructors during 1958-59, 6,000 instructors during 1959-60 and 7,400 instructors during 1960-61 (para 57-59).

Day or Evening Classes

112. Day or evening classes would be necessary for apprentices to acquire knowledge of theory of their crafts. Preference should be given to day-time classes which the apprentices attend one day a week. An additional number of 14,000 seats would be required for running day-time classes for apprentices. Of these arrangements for 1,500 seats should be made during 1958-59,2,500 additional seats during 1959-60 and the remaining 10,000 seats during 1960-61 (paras 37 and 56).

Total Cost of Expansion Proposals

113. The total non-recurring cost of the expansion proposals, excluding the cost of the administrative set-up at the Centre and the cost of training instructors, would be about Rs. 58 crores and the annual recurring cost about Rs. 28.5 crores (para 69).

Immediate Programme

114. An immediate programme of apprenticeship training can be started at the Common Facility and Pilot Workshops attached to the Small Industries Service Organisation of the Ministry of Commerce and Industry for training (i) 1850 skilled and semi-skilled workers (ii) 200 instructors and (iii) 170 persons who can fit in managerial jobs or as entrepreneurs (para 93).

115. Arrangements should also be made for training an additional number of 250 degree and diploma holders per year by placing them in small factories where they could learn all aspects of manufacture of particular items to qualify them to become supervisors of entrepreneurs (para 93).

116. Additional equipment and staff should be provided these centres to allow them to increase the number of trainees atr skilled and semi-skilled jobs to 5850 (para 93).

Cost of Immediate Programme

117. The non-recurring cost of this programme would be about Rs. 240 lakhs and the recurring cost about Rs. 86 lakhs (para 93).

Training Programme Essential for Fulfilment of 2nd Plan Targets

118. We are strongly of the view that unless effect is given to these proposals and a large number of technically trained men is made available, the targets of employment and production laid down for the small scale industries under the Second Plain are not likely to be met.

119. It will be appreciable time before trained men become available under the apprenticeship and institutional training schemes proposed by us. Such of these men who do not complete training in time for the Second Plan period will be available for the Third Plan period.

Assess Requirements of 3rd Plan

120. To train men is a time-consuming process. We accordingly strongly recommend that the National Council for Training in Vocational Trades should, in consultation with the Planning Commission, take in hand as soon as possible the work of assessing the probable requirements of skilled and semi-skilled men in the different trades for the Third Plan period and make timely arrangements for their training.

Sd. P. B. Advani——*Chairman*
Sd. Satish Chandra
Sd. H. Davenport
Sd. R. V. Ramiah
Sd. L.N. Renu.

New Delhi;

Dated: 12th November, 1957.

APPENDIX I

List of Departments, Institutions and Authorities who supplied information.

1. Ministry of Communications, New Delhi.
2. Ministry of Defence, New Delhi.
3. Ministry of Education, New Delhi.
4. Ministry of Food & Agriculture, New Delhi.
5. Ministry of Home Affairs, New Delhi.
6. Ministry of Iron & Steel, New Delhi.
7. Ministry of Production, New Delhi.
8. Ministry of Railways, New Delhi.
9. Minstry of Transport, New Delhi.
10. Planning Commission, New Delhi,
11. All India Handicrafts Board, New Delhi.
12. Central Statistical Organisation, New Delhi.
13. Development Wing of the Ministry of Commerce and Industry, New Delhi.
14. Directorate General of Resettlement & Employment, New Delhi.
15. Directorate of Industrial Statistics, Calcutta.
16. Labour Bureau, Simla.
17. National Income Unit, New Delhi.
18. National Sample Survey, New Delhi.
19. Registrar General of Census, New Delhi.
20. Secretary, Silk Board.
21. Small Industries Service Institutes, Madras, Bombay, New Delhi & Calcutta.
22. Director of Industries, Bombay.

23. Director of Industries, Madhya Pradesh.
24. Director of Industries, Madras.
25. Director of Industries, Orissa.
26. Director of Industries, Rajasthan.
27. Director of Industries, Uttar Pradesh.
28. Director of Industries, West Bengal.
29. Director of Technical Education, Bombay.
30. Industries Labour & Cooperative Department, Madras.
31. Registrar, Cooperative Societies, Mysore State.
32. Chief Commissioner, Andaman & Nicobar Islands
33. Director of Industries & Labour, Delhi.
34. Secretary, Industries Department, Himachal Pradesh.
35. Alagappa Chettiar College of Technology, Guindy, Madras.
36. All India Shia Orphanage, Lucknow.
37. Alladin Technical Training Institute, Bogulkunta, Hyderabad (Dn.)
38. Andhra University, Waltai.
39. Anjuman Khadimul Muslimeen, Kachiguda, Hyderabad.
40. Anjuman Industrial School, 2/192, Mount Road, Madras.
41. Assam Civil Engineering Institute, Gauhati.
42. A. V. Parekh Technical Institute, Rajkot.
43. Aurangabad Polytechnic, Aurangabad.
44. Bal Sahyog, New Delhi.
45. Balasore Technical School, Balasore.
46. Bhavsinhji Polytechnic Institute, Bhavnagar.
47. Bihar College of Engineering, Patna.

48. Birla College of Engineering, Pilani.
49. Board Industrial School, Malherla, Distt :-Guntur.
50. B.M. Sreenivasiah College of Engineering, Bangalore.
51. B.V.B. College of Engineering & Technology, Hubli.
52. C.N.T. Institute, Vepery, Madras.
53. C.P.C. Occupational Institute, Mysore.
54. Carpentry Training School, Mukral.
55. Central Training Institute and Industrial Training Centre, Koni, Bilaspur.
56. Ch. Gurnarain Tech. Industrial School, Manikpur, Distt :-Etawah
57. Ch. K. Board Industrial School, Pedapudy, Distt :-Guntur.
58. Chaibasa Technical School, Chaibasa, Bihar.
59. Chanchal Siddheswari Institute, P. O. Chanchal, Distt :- Malda.
60. Chamarajendra Tech., Institute, Sayyaji Road, Mysore.
61. College of Engineering, Guindy, Mardas.
62. College of Engineering, Osmania University, Hyderabad.
63. Cutlery Tuitional Class, Rampura.
64. Delhi Polytechnic, Delhi.
65. Deputy Chief Engineering, Heavy Electrical Industries, (Private) Ltd., New Delhi.
66. District Board Industrial School, Pallachi.
67. District Workshop, Bhind.
68. District Workshop, Biaora.
69. District Workshop, Guna.
70. District Workshop, Khargone.
71. District Workshop, Morena.
72. District Workshop, Mow.

73. District Workshop, Neemuch.

74. District Workshop, Shujalpur.

75. Dr. SS. Ghandhey College of Engineering and Technology, Majura Gate, Surat.

76. Elphinstone Technical High School, Bombay—1.

77. Engineering College, Anantapur.

78. Footwear Pilot Project Scheme, Agra (U.P.)

79. Fulia Polytechnic, P. O. Fulia Colony, Distt. Nadia.

80. Gaya Technical Institute, Mohalla Ramsila, Gaya.

81. Girl's Vocational Institute, Haramkonda, Warangal.

32. Government Aided Industrial School, Chandametta (District Chhindwara).

83. Government Aided Janpade Sabha Carpentry School, Malkapur, Buldana.

84. Government Aided Municipal Industrial School, Khandwan.

85. Government Aided Municipal Industrial School, Saugor.

86. Goverenment Carpentry & Smithy School, Onkeshwar, Belgaum.

87. Government Carpentry Training Centre, Mohammadabad,Yusufpur, Gazipur

88. Government Engineering College, Jubbalpur.

89. Government Engineering College & Polytechnic, Nagpur.

90. Government Industrial School, Channapatna.

91. Government Industrial School, Charkhari, Mahoba Distt. Hamirpur.

92. Government Industrial School, Chikkaballapur, Distt. Kolar.

93. Government Industrial School, Chitaldrug,

94. Government Industrial School, Dodballapur, Distt. Bangalore

95. Government Industrial School, Hissar.
96. Government Industrial School, Rewari.
97. Government Industrial School, Rohtak.
98. Government Industrial Training Workshop, Kurla P.O Ghatkopar, Bombay.
99. Government Industrial Training Workshop, Sholapur.
100. Government Industrial-cum-Technical High School, Bijapur.
101. Government Knife Making Tuitional Class, Hathras, Aligarh District.
102. Government Leather Working School, Karwar.
103. Government Leather Works Tuitional Class, Lahar Tara, Varanasi.
104. Government Non-ferrous Metal Industries Peerghal, Moradabad.
105. Government of Bihar, Industrial Training Institute, Dighaghat, Patna.
106. Government Industrial School, Yervada, Poona-6 (For Juveniles only).
107. Government Polytechnic, Meerut.
108. Government Polytechnic, Nowgong.
109. Government Polytechnic, Srinagar (Garhwal).
110. Government Polytechnic Institute, Kalamassery, Alwaye, Trichur.
111. Government tanning School, Fatehpur.
112. Government Technical College, Hyderabad.
113. Government Tech. High School, Hubli, Distt. Dharwar.
114. Government Technical High School, Jalgaon, East Khandesh.
115. Government Technical Institute, Jhansi.
116. Government Technical School, Raipur.
117. Government Training Institute, Jullundur City.
118. Government Vocational High School, Khairagarh.

119. Government Vocational High School, Nagpur.

120. Government Vocational Training Centre, Palwal, Distt. Gurgaon.

121. Govindram Seksaria Technological Institute, Indore.

122. Guru Nanak Engineering College, Ludhiana.

123. Hide Flaying Curing Carcass Utilization, B.K.T. Centre, Bakhsi-ka-Talaab, Lucknow.

114. Hindustan Electricals Limited, New Delhi.

125. Hindustan Insecticides Ltd., New Delhi.

126. Hindustan Machine Tools Ltd., Bangalore.

127. Hockey Making Tuitional Class, Training-cum-Production Centre, Meerut.

128. Hooghly Institute of Technology, Hooghly.

129. I.T.C. Dayanand Polytechnic Institute, Amritsar.

130. I.T.C. Mehar Chand Tech. Institute, Jullundur.

131. I.T.C. Pioneer Motor Service, Nagercoil.

132. I.T.C. Shaithic Co-operative Engineering Workshops, Madras.

133. Indian Institute of Science, Bangalore-3.

134. Industrial Orphanage, Baranagar, Culcutta-38.

135. Industrial Training Centre S.J.O. Institute, Banglore,

136. Industrial Training Centre, Jaora.

137. Industrial Training Centre, Karnataka Polytechnic, Mangalore-9.

138. Industrial Training Centre, Polytechnic, Vuyyuru, Distt. Krishna.

139. Industrial Training Institute, Anantapur.

140. Industrial Training Institute, Aundh Camp, Poona.

141. Industrial Training Institute, Ferozepur.

142. Industrial Training Institute, Kakinada.

143. Industrial Training Institute, T. Nagar Madras-17.

144. Industrial Training-cum Production Centre, Akola.

145. Industrial Training-cum-Production Centre, Aliganj, Etah.

146. Industrial Training-cum-Production Centre, Kheragarh.

147. Industrial Training-cum-Production Centre, Sultanganj, Mainpuria.

148. Industrial Training-cum-Production Centre, Goverdhan Mathua.

149. Industrial Training-cum-Production Centre, Tappal, Aligarh.

150. Industrial Workshop Indore.

151. Ingraham Institute, Gaziabad. (U.P.)

152. Institute Indo-Portuguese Kavarana Building, Bombay.

153. Jadavpur Polytechnic, Jadavpur College, Calcutta,

154. Joseph's Industrial School, Ootacamund, Distt. Nilgiris.

155. Toy Vocational & Technical Institute, Karimganj, Assam.

156. Junior Technical School, P.O. Kohima, Distt. Naga Hills.

157. Karnataka Polytechnic, Mangalore.

158. Kerala Polytechnic, Kozhikode-5.

159. Labpur Jadablal Hr. Secondary Multipurpose School, Birbhum.

160. Lal Singh Man Singh Industrial School, Mainpuri.

161. Madras Institute of Technology, Chrompet, P.O. Chinglepet.

162. Mining Classes, Bihar, P.O. Bhaga, Distt. Dhanbad.

163. Mumtaz Orphanage Industrial School, Bagh Goonge Nawab, Aminabad, Lucknow.

164. Municipal Leather Working School, Allahabad.

165. National Institute of Engineering, Hoshiarpur.

166. National Telegraph Training & Commercial Institute, Jorhat, Assam.

167. Navsari Technical Institute, Navsari.

168. Occupational Institute, Chintamani.

169. P.S.G. College of Technology & Polytechnic, Peelamedu, Coimbatore.

170. Pasumalai Trade School, Pasumalai, Madurai District.

171. Pottery Demonstration Centre, Khanapur, Distt. Belgaum.

172. Punjab Engineering College, Chandigarh.

173 Queen Mary's Technical School, Park Road, Poona-7 (For Disabled Ex-servicemen only).

174. R.B. Seth P.K. Kotawala, Ind-cum-Technical High School, Patan.

175. R.C. Technical Institute, Ahmedabad-2.

176. Radio Photographic Institute, Teelipara, S.M. Highway, Jaipur.

177 Rahamaria Carpentry School, Mandaha, Ragaul, Hamirpur.

178. Ramakrishna Mission Shilpamandira, Belurmath, Distt. Howrah.

179. Robertson Industrial School, Jubbulpore.

180. S. S. K. Inter College, Station Road, Moradabad.

181. Sangli Industrial School, Sangli.

182. School of Arts & Crafts, Poonamallee, High Road, Madras-3.

183. Sh. Gandhi Ayudhodic College, Orai, Distt. Jalna.

184. Sheth Chimanlal Nagindas Polytechnic Institute, Ahmedabad-6.

185. Shivaji Technical Institute, Kolhapur.

186. Shri Krishnashramam Harijan Industrial School, Ring Road, Distt. Guntur.

187. Sibpur Polytechnic Bengal College of Engineering, Sibpur, Howrah.

188. Silghat Industrial & Technical School, Silghat, Distt. Nowgong.

189. Sindri Fertilizers & Chemicals (Private) Ltd., Sindri.

190. Sir Cusrow Wadia Institute of Electrical Technology, Poona—1.

191. Shri Harijana Industrial School, Bhimavaram.

192. Sri Ram High School, (Tech.Sec.) P. O. Abhinashpur, Distt. Birbhum.

193. St. Alphonsus Industrial School, Kurseong.

194. St. Ignatius Industrial School, Turicorin.

195. St. Joseph Industrial School, Gundala (Krishna District).

196. St. Kavier's College Technical Institute, Cruickshank Road, Bombay-1.

197. State Transport Central Workshop, Dapodi, Poona 3.

198. T.M. Technical School-cum-Technical High School, Sawantwadi.

199. Tamilnad Polytechnic, Madurai.

200. Tanning School, Vadgaon, Pan, Adhmednagar District.

201. Technical College, Dayalbagh, Agra.

202. Technical Institute, Bahjoi, Distt. Moradabad (U.P.).

203. Technical School, Hazaribagh Road, Hazaribagh.

204. Technical Training Centre, Nanded.

205. Thakkar Bapa Vidyalaya, Thyagarayanagar.

206. The David Sassoon Industrial School, Mahim, Bombay-16 (For Juvenile Dilinguent only).

207. The Jamshedpur Technical Institute, N. Road, Bistupur, Tatanagar.

208. The M. H. Saboo Siddik Institution, Shepherd Road, Bombay-8.

209. The Patuck Technical High School, Bombay—25.

210. Tilak Nagar Training-cum-work Centre, Tilak Nagar, New Delhi.

211. Training-cum-Production Centre, Govindpuri, Modinagar.

213. Training-cum-work Centre, Gandhinagar, Bhopal.

214. Training-cum-work Centre, Gayespur, Nadia.

215. Training-cum-work Centre, Habra Colony.

216. Training-cum-work Centre, Titagarh, 24-Parganas.

217. U.P. Government Sports Goods Manufacture-cum-Training Centre, Nainital.

218. Victoria Jubilee Technical Institute, Bombay-19

219. Village Industries Development Centre, Aurangabad.

220. Vocational Department, Rasalpura Christian High School, Mhow(Indore), Madhya Pradesh.

221. Vocational Training Centre, Batala.

222. Vocational Training Centre, Ludhiana.

223. Vuyyuru Polytechnic, Vuyyuru, Krishna District.

224. Welding School Indian Oxygen & Acetalyne Co., Ltd., Diamond Harbour Road, Calcutta.

INVESTIGATION TEAM

1. Shri C. Jagannathachari, Dy. Development Officer.
2. Shri J. K. Basak, Statistical Officer.
3. Shri S. K. Dey, Jr. Field Officer.
4. Shri S. P. Jain, ,, ,,
5. Shri M. P. Gupta, ,, ,,
6. Shri S. R. Sen Gupta, ,, ,,
7. Shri M. M. Saigal, ,, ,,
8. Shri M. M. Saxena, Investigator.
9. Shri A. S. Bajaj, ,, ,,
10. Shri R. Ramanathan, ,, ,,
11. Mrs. Anjali Bose, ,, ,,

APPENDIX II

SURVEY OF 410 SMALL INDUSTRIAL UNITS DURING FEBRUARY—APRIL, 1957

(Reference Chapter II)

A rapid survey of 410 small industrial units and 83 technical training institutions was conducted to find out:

(*i*) How far it would be possible to utilise small industrial units for training apprentices and what incentives and assistance will have to be provided to them ;

(*ii*) How far additional capacity could be developed for introducing evening classes or extra shifts at the existing technical training institutions ; and

(*iii*) The industries and trades in which training facilities could be organised and quickly.

2. The Investigation Team, consisting of a Deputy Development Officer (part-time), a Statistical Officer, 6 Junior Field Officers and 4 Investigators, covered the States of the Punjab, Delhi, U.P., Bihar, West Bengal, Orissa and Bombay. Data for the States of Madras and Andhra Pradesh was collected by the investigation team attached to Madras Small Industries Service Institute. The selection of units was purely on a random sample basis. No attempt was made to take any definite number of samples for securing any regional balance or balance amongst the States, or even amongst various industrial groups. The towns where the survey was conducted and the comparatively good units and institutions which could quickly offer scope for organising facilities for apprentices were selected in consultation with the Directors of the Small Industries Service Institutes and the local Directors of Industries. The number of samples was determined mainly by the ability of the Team to visit the selected centres and selected units or institutions. The sampling was so adjusted as to allow the field survey to be completed within six weeks.

3. In addition to unit visited by the Team, Directors of Industries of all States and the Union Territory of Delhi were requested to get the proformae filled in for as many units as possible through their local staff. It was hoped that the coverage by the officers of the Industries Departments would greatly supplement and data collected by members of our Team. But through the State Industries Departments offered their fullest co-operation, the time available was so short that the returns received for tabulation were only those that were filled in by members of our Team during their visits to the 410 units and 83 technical training institutions in 53 industrial towns. Of these, returns for 37 units had to be rejected because they contained incomplete information. The data containing average daily employment of skilled, semi-skilled and unskilled workers, and training capacity offered by the efficient and inefficient small industrial units, is given for the different States in Table 1, for different industries in Table 2(a) and according to trades in Table 2 (b).

TABLE 1

Employment and Training Capacity of Small Industrial units (Surveyed)—Statewise (para 29)

State	No. of units	Average daily employment		Training capacity** offered by units				Units acceptable for training				
		Skilled & semi-skilled workers	Un-skilled workers	Under Existing conditions		With Govt. assistance		Units offering capacity**			Units not offering capacity	
				No. of Units	No. of trainees	No. of Units	No. of trainees	No. of Units	No. of workers	Capacity	No. of units	No. of workers
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Andhra	21	351	150	9	89	13	66	15	420	150	2	42
2. Bihar	17	389	116	—	—	13	70	10	428	68	—	—
3. Bombay	103	1,629	802	31	129	56	278	58	1,552	309	7	198
4. Delhi	32	662	429	2	10	25	256	17	714	124	2	40
5. Madras	24	430	233	8	46	8	70	11	305	61	5	117
6. Orissa	5	39	101	—	—	3	24	—	—	—	—	—
7. Punjab	59	1,237	337	21	131	31	172	40	1,290	268	2	80
8. U. P.	80	1,750	608	21	89	49	264	37	1,555	225	4	104
9. West Bengal	32	370	494	—	—	19	76	12	447	41	7	256
Total	373	6,857	3,270	92*	494	217*	1,276	200	6,711	1246	29	837

Source: Sample Survey conducted by the Technical Training Committee of Small Scale Industries Board.

40 units offered to train some apprentices under existing conditions and an additional number with Government assistance.

** 'Capacity' means the number of apprentices the units offered to train at a time.

Note :—Table referred to para 29 of Report.

TABLE—2(a)

Employment and Training Capacity of Small Industrial units (surveyed) Industrywise

Standard International Industrial Classification	No. of Units	Average daily employment		Training capacity** offered by Units				Units acceptable for training				
		Skilled and semi-skilled workers	Unskilled workers	Under existing conditions		With Govt. assistance		Units offering capacity**			Units not offering capacity	
				No. of units	No. of trainees	No. of units	No. of trainees	No. of units	No. of workers	Capacity	No. of Units	No. of workers
1	2	3	4	5	6	7	8	9	10	11	12	13
20. Food except Beverages 203—canning and preservation of fruit and Vegetables	4	36	38	...	...	2	4	1	37	2	...	...
23. Textiles, 232—Knitting Mills	7	147	14	2	5	5	9	2	44	7	...	...
24. Footwear other wearing apparel and made up textile goods 241—Mfg. of Boots and Shoes (except rubber footwear)	3	35	8	1	5	...	...	...	...	...	...	...
25. Wood and cork (except furniture 250 (c) Joinery and General Wood working	3	20	39	...	...	2	7	1	35	8	...	...
26. Furniture and fixture 260(a)—Wooden, 260(b)-Metal	14	270	157	3	18	21	114	8	322	91	...	...

1	2	3	4	5	6	7	8	9	10	11	12	13
29- Leather and leather products (except footwear) 291—Tanneries and leather finishing	7	188	21	...	...	3	25	2	95	10	...	...
30. Rubber and Rubber products 300 (c) Others	3	49	50	...	...	2	30	2	83	30	...	...
31. Chemical or Chemical products 319(a) Fine Pharmaceutical chemicals	2	15	45	...	...	...	...	...	...	...	...	...
33. Non-metallic mineral products (except products of petroleum and coal) 331(a)—Manufacture of bricks and tiles 332—Manufacture of glass and glass products (except optical lenses) 333—Manufacture of pottery China and Earthenware	12	248	265	5	18	6	27	2	87	15	1	31
34. Basic Metal Industries 341 (a)—Metal Founding 342 (d)—Tube making and wire drawing	18	262	89	7	19	16	47	11	252	54	8	44

1	2	3	4	5	6	7	8	9	10	11	12	13
35. Manufacture of metal products (except machinery and transport equipment)												
350. (a)-Metal containers and steel trunks.	65	1064	839	15	77	37	152	40	1372	187	2	37
350. (b)-Cutlery, Locks etc.												
350. (c)-Bolts, Nuts, Nails etc.												
350. (d)-Matel Galvanising, plating etc.												
350. (g)-Safes and vaults												
350. (h)-Others												
360. Manufacture of Machinery (except electrical).												
360. (b)-Prime Movers	142	2868	1063	28	243	75	483	77	2901	483	18	511
360. (c)-Agricultural implements												
360. (d)-Machine tools, wood working machinery etc.												
360. (e)-Textile Machinery and accessories												
360. (f)-General and Jobing Engg.												
360. (g)-Others												

1	2	3	4	5	6	7	8	9	10	11	12	13
37. Electrical Machinery, appasratus, appliances and supplies 370. (a)-Electrical Machinery 370. (b)-Electical Lamps (other than bulb making) 370. (c)-Storage Batteries 370. (d)-Insulated wire and cables 370. (g)-Others	16	341	164	6	21	8	40	8	285	50	2	63
38. Transport and Transport equipment 384. (a)-Repair of Motor vehicle 385. Manufacture of Bicycles 389.(a)-Coach Building	42	576	304	12	47	21	140	21	579	148	1	50
39. Miscellaneous Industries 391. Manufacture of Professional, Scientific, Measuring and Controlling instruments 392. Manufacture of optical goods 399. (b)-Pencil making 399. (c)-Button making 399. (e)-Games and Sports 399. (h)-Plastic articles 399. (i)-Others	35	738	174	13	41	19	198	25	619	166	2	101
Total	373	6857	3270	92*	494	217*	1276	200	6711	1246	29	837

Source : Sample Survey conducted by the Technical Training Committee or the Small Scale Industries Board.

* 40 units offered to train some apprentices under existing conditions and an additional number with Government assistance,

** 'Capacity' means number of apprentices the units offered to train at a time.

Note : Table refered to in Para 46 of Report.

TABLE 2 (b)

Employment and Training Capacity of small industrial units (surveyed)—Tradewise

Name of Trade	No. of Units for such Trade	No. of workers		Training Capacity** offered by units				Units acceptable for training				
		Skilled and Semi-skilled	Un-Skilled	Under existing condition		With Govt assistance		Units offering Capacity			Units not offering Capacity	
				No. of Units	Capacity	No. of units	Capacity	No. of units	No. of workers	Capacity	No. of Units	No. of workers
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Carpenter	55	420	108	7	17	23	118	21	327	100	16	40
2. Cabinet Maker	2	13	6	—	—	2	6	2	19	6	—	—
3. Pattern Maker	14	30	4	2	2	4	7	6	12	7	5	7
4. Cane Maker	4	21	2	1	2	3	7	3	17	5	—	—
5. Machinist	272	3270	1403	15	262	130	449	155	3409	498	33	210
6. Foundry man	138	1179	696	28	73	57	313	65	1185	293	42	223
7. Welder	43	94	40	5	10	16	29	18	52	25	13	39
8. Tool & Die Maker	15	44	22	5	16	6	7	8	28	17	2	12
9. Blacksmith	54	247	95	7	14	18	56	18	190	39	22	75
10. Sheetmetal Worker	50	474	360	7	19	25	99	34	635	63	2	33
11. Automobile Mechanic	4	26	21	3	8	1	4	4	47	12	—	—
12. Hosiery Worker	2	16	2	—	—	—	—	—	—	—	2	18
13. Electrician	8	31	8	—	—	1	4	3	13	4	2	12
14. Radio Mechanic	1	6	3	—	—	1	2	1	9	2	—	—
15. Electro-Plater	39	193	69	3	4	24	49	57	154	28	8	19

1	2	3	4	5	6	7	8	9	10	11	12	13
16. Ceramic Worker	7	37	2	—	—	4	6	3	18	5	2	15
17. Leather Worker	3	16	2	—	—	1	2	3	18	2	—	—
18. Shoe Maker	4	51	12	2	5	—	—	1	20	5	—	—
19. Tanner	5	79	14	—	—	3	10	2	15	3	1	25
20. Plastic Worker	11	39	8	2	3	2	4	6	25	6	2	14
21. Glass Worker	9	102	162	4	14	3	13	5	118	17	1	21
22. Rubber Worker	5	74	58	1	4	3	40	4	107	44	—	—
23. Painter and Polisher	74	314	97	17	36	31	43	25	231	55	29	57
24. Chemical Worker	12	81	76	3	5	5	8	4	62	10	3	17
Total	373@	6857	3270	92@	494	217@	1276	200@	6711	1246	29@	837

Source : Sample Survey conducted by the Technical Training Committee of the Small Scale Industries Board.

* 40 units offered to train some apprentices under existing conditions and an additional number with Government assistance.

** 'Capacity' means the number of apprentices the units offered to train at a time.

@Existence of more than one trade section in the same unit accounts for the difference between the sum total and the actual total No. of units.

Note : Table referred to in paras 29 and 46 of Report.

4. The total number of workers employed by 373 sample units was 10,127, of whom 6,857 were skilled and semi-skilled workers. Making allowance for possible adjustments, it is estimated that skilled and semi-skilled workers account for an average of two thirds of the labour force in small factories.

5. Two hundred and sixty-nine units expressed willingness to accept apprentices. Of these 200 units with a labour force of 6,711 workers were considered fit by the Investigation Team for introduction of an apprenticeship course. The number of apprentices that those 200 units offered to accept was 1,246 which is over 18% of their labour force (Table I).

6. The type of assistance that these units asked for is shown in Table 2 (c)

TABLE 2(c)

Survey of Small Industrial Units—Incentives

(*Referred to in para 68 of Report*)

Nature of Assistance	No. of Units requiring Assistance	Remarks
1	2	3
Selection, Stipend and Discipline.	130	1. Care should be taken to recruit willing and cooperative workers with required qualifications only. 2. Stipends paid to trainees should be liberal so that trainees with the requisite qualifications are attracted and do not leave during the course of training to take up other jobs. 3. The stipends should be paid regularly through the employers to ensure discipline. 4. The units should not make any payments to trainees by way of wages or allowances.

1	2	3
Raw materials : coal & coke, pig iron, steel, cement, seasoned wood and so on.	72	1. Regular supply of adequate additional quantities of raw materials of specified grades at controlled or reasonable rates. 2. Issue of actual users, import licences for adequate quantities of such raw materials and components that the large units are allowed to import or that are in short supply in the country. 3. Arrangements for holding stocks by co-operative or Government agencies to ensure expeditious supply without the need of blocking large amounts in raw materials.
Enforcement of Fatory Laws.	44	1. Acceptance of apprentices should not count for purposes of employee' Provident Fund Act and employees State Insurance Act. Any expenditure incurred on their account should be borne by Government. 2. These apprentices should not be placed on the regular roll of workers of the factories. 3. Enforcement of the following provisions of the Factory Act may be relaxed. (a) Factory Space—Sec. 16 of the Factory Act-1948. (b) Urinals, etc,—sec. 19 of the Factory Act 1948.
Equipment	37	Before introduction of the Training Course assistance should be given to industrial units by way of loans or supply of machinery on hire-purchase basis for modernising and expanding workshop facilities.
Working Capital	37	Loans for working capital on liberal terms.

1	2	3
Factory Space	25	Arrangement for adequate space in Industrial Estates or elsewhere at reasonable rent.
Compensation to Factory Owners	19	Compensation for losses on account of : (a) Wastage of raw-materials ; (b) Retardation of production ; (c) Damage and depreciation of machinery ; and (d) Time spent by instructors on instruction and supervision of apprentices.
Expert Technical Advice	16	Advice and guidance of experts.
Development Capital	14	Loans on liberalized terms for expansion, i. e. for purchase of land construction of buildings and Purchase of equipment.
Supply of Electricity	11	Additional electric power (Demand from Delhi units only)
Post-training Arrangements.	7	1. The trainees should agree to continue to serve with the units for a specified period after completion of the training period, provided the terms and conditions of service by the former or similar to those prevailing in similar units. 2. The trainees should not claim employment as a matter of right.
Other Forms of Assistance	10	Marketing Assistance.

7. A comparative study of the facilities that could be developed for in-plant training and the availabilty of Certificate Holders, Matriculates, Intermediates etc., is attempted in Table 2(d). Some information by no means complete on annual out-turn of certificate Holders and the number of Matriculates and Intermediates seeking employment in some towns was available with the Director General of Resettlement and employment, and has been used in this Table. Figures of training capacity of Small Industries Service Institutes, Industrial Extension Centres and Production Centres, have been estimated by the Technical Training Committee, in the hope that additional equipment and staff would be sanctioned for training purposes. If, however, this cannot be done,the estimates would not be realistic. The towns selected for this Table are those, (i) where Small Industries Service Institutes and Centres are being located, and/or (ii) which were covered during the rapid survey. Location of some Extension Centres and Production Centres has not yet been decided.

TABLE— 2(d)

The annual out-turn of certificate holders and facilities for in-plant training in selected towns (Para 88)

Town	Annual out-turn of certificate holders		Capacity offered by small industrial Units (Suitable)		Training capacity offered in Extension Centres etc.			No. of Matriculates & Intermediates seeking employment		REMARKS
	No. of Institutions	Out-turn	No. of Units	Capacity Offered	No. of Institutions	Capacity Immediat	Capacity Ultimate	Matriculates	Intermediates	
1	2	3	4	5	6	7	8	9	10	11
Western Zone										
1. Bombay	5	733	12	57	1	30	150	10961	742	Regional Institute.
2. Surat	3	220	10	29	—	—	—	1669	65	
3. Baroda	2	44	6	17	—	—	—	N. A.	N. A.	
4. Kolhapur	3	120	8	42	1	10	50	1429	134	Extension Centre for machine shop, forging, heat treatment foundry, smithy etc .
5. Poona	3	186	5	20	1	10	50	3652	212	Extension Centre for machine shop forging, heat treatment and electroplating .

1	2	3	4	5	6	7	8	9	10	11
6. Sangli	1	16	3	23	—	—	—	N.A.	N.A.	
7. Nadiad	2	31	1	25	1	10	50	N.A.	N.A.	Extension Centre for machine shop, Carpentry, forging and heat treatment
8. Nagpur	3	185	7	75	—	—	—	1290	120	
9. Ahmedabad	3	206	5	12	1	10	50	4549	296	Extension Centre for machine shop, foundry and sand testing and mechanical testing.
10. Bhavnagar	1	N.A.	—	—	1	10	50	265	13	Extension Centre for machine shop, foundry and sand testing.
11. Rajkōt	1	30	3	14	1	20	100	211	22	Major Institute.
12. Belgaum	1	12	—	—	1	10	50	N.A.	N.A.	Extension Centre for machine shop, forging and heat treatment.
13. Varud	—	—	—	—	1	10	50	N.A.	N.A.	Extension Centre for Log cutting, carpentary, oil engine and pump repair.
14. Amraoti	—	—	—	—	1	10	50	598	61	Extension Centre for sheet metal.
15. Gwalior	2	70	—	—	1	10	50	284	99	Extension Centre for machine shop, forging and heat treatment.
16. Ujjain	1	N.A.	—	—	1	10	50	N.A.	N.A.	Extension Centre for machine. shop.
17. Jamnagar	1	104	—	—	1	10	50	N.A.	N.A.	Extension Centre for Electroplating.
18. Indore	1	30	—	—	2	30	150	547	78	(1) Major Institute (2) Extension Centre for Clock making.

1	2	3	4	5	6	7	8	9	10	11
19. Jubbulpore	3	329	—	—	1	10	50	658	98	Extension Centre for machineshop, forging, heat-treatment etc.
20. Mysore	4	268	—	—	1	10	50	1590	158	—do—
21. Bangalore	5	120	—	—	2	30	150	3397	444	(1) Major Institute (2) Extension Centre for machineshop, forging, heat treatment etc.
22. Savarkundla	—	—	—	—	1	10	50	N.A.	N.A.	—do—
23. Hubli	1	40	—	—	1	20	100	1547	151	Branch Institute.
Northern Region										
24. New Delhi	5	214	17	124	2	40	200	15053	2001	(1) Regional Institute (2) Extension Centre for Carpentry.
25. Faridabad	—	—	6	36	—	—	—	N.A.	N.A.	
26. Jullundur	3	169	6	27	1	10	50	1109	114	Extension Centre for Sports goods
27. Ambala	2	236	3	23	1	10	50	944	108	Extension Centre for Scientific Glassware.
28. Amritsar	3	169	5	39	—	—	—	776	127	
29. Batala	1	70	10	109	1	10	50	N.A.	N.A.	Extension Centre for Agricultural Implement.
30. Malerkotla	—	—	1	2	—	—	—	N.A.	N.A.	
31. Panipat	1	60	1	4	—	—	—	N.A.	N.A.	
32. Jagadhri	2	98	2	9	1	10	50	N.A.	N.A.	Extension Centre for metal (non-ferrous) utensils.
33. Ludhiana	3	150	6	26	1	20	100	436	49	Major Institute.
34. Banares	3	83	2	6	1	10	50	1251	426	Extension Centre for Metal utensils, zari and wire netting and mathematical instruments.
	5	217	1	4	—	—	—	1927	661	

1	2	3	4	5	6	7	8	9	10	11
36 Agra	2	15	3	11	3	40	200	2202	887	(1) Branch Institute (2) Extension Centre for shoe-lasts and last block manufacture. (3) Production-cum-training Centre for Footwear.
37. Allahabad	3	142	—	—	1	20	100	2992	1149	Branch Institute.
38. Kanpur	3	234	2	9	1	10	50	1960	1496	Extension Centre for Bicycles and parts.
39. Aligarh	2	84	4	45	—	—	—	1272	488	
40. Moradabad	1	71	2	10	—	—	—	904	420	
41. Roorkee	2	68	5	47	1	10	50	N.A.	N.A.	Extension Centre for survey & drawing Instruments.
42. Gaziabad	1	10	1	1	—	—	—	N.A.	N.A.	
43. Saharanpur	—	—	2	5	—	—	—	572	207	
44. Sasni	—	—	1	2	—	—	—	N.A.	N.A.	
45. Meerut	2	108	8	9	1	10	50	2496	787	Extension Centre for sports goods.
46. Bareilly	2	268	6	36	—	—	—	1074	466	
47. Firozabad	—	—	—	—	1	10	50	N.A.	N.A.	Extension Centre for pressed glassware and bangles industry.
48. Kaithal	—	—	—	—	1	10	50	N.A.	N.A.	Extension Centre for carpentry and blacksmithy.
49. Rewari	1	30	—	—	1	10	50	N.A.	N.A.	Extension Centre for Metal & Footwear Industry.
50. Hathras	1	10	—	—	—	—	—	N.A.	N.A.	
51. Jaipur	2	33	—	—	1	20	100	864	138	Major Institute,
52. Nagaur	—	—	—	—	1	10	50	N.A.	N.A.	Extension Centre for hand tools.
53. Srinagar		—	—	—	1	20	100	N.A.	N.A.	Major Institute.

1	2	3	4	5	6	7	8	9	10	11
Southern Region										
54. Madras	7	346	7	35	3	50	250	3663	322	(1) Regional Institute. (2) Extension Centre for glass foundry and electroplating. (3) Extension centre for food preservation.
55. Coimbatore	4	159	3	17	1	10	50	1713	110	Extension Centre for foundry and metal working.
56. Rajahmundry	2	N.A.	1	25	—	—	—	N.A.	N.A.	
57. Trichur	1	28	—	—	1	10	50	N.A.	N.A.	Extension centre for footwear.
58. Vijayawada	—	—	5	43	1	10	50	1874	398	Extension Centre for general engineering & foundry.
59. Kakinada	3	40	5	38	—	—	—	1543	201	
60. Hyderabad	7	87	4	35	1	20	100	N.A.	N.A.	Major Institute.
61. Trivandrum	1	40	—	—	1	20	100	5916	74	—do—
62. Attingal	—	—	—	—	1	10	50	N.A.	N.A.	Extension centre for stainless steel utensils.
63. Shoranur	—	—	—	—	1	10	50	N.A.	N.A.	Extension centre for general engineering.
64. Muvattupuzha	—	—	—	—	1	10	50	N.A.	N.A.	Extension centre for tin containers & tin printing.
65. Erode	—	—	—	—	1	10	50	N.A.	N.A.	Extension centre for leather finishing.
66. Alleppy	—	—	—	—	1	10	50	N.A.	N.A.	Extension centre for general engineering.
67. Kallai	—	—	—	—	1	10	50	N.A.	N.A.	Extension Centre for wood seasoning plant.
68. Pondicherrey	1	N.A.	—	—	1	10	50	92	6	Extension centre for general engineering.
69. Trichi	—	—	—	—	—	—	—	N A.	N.A.	
70. Samalkot	—	—	—	—	—	—	—	N.A.	N.A.	
71. Waltair	—	—	—	—	—	—	—	N.A.	N.A.	

1	2	3	4	5	6	7	8	9	10	11
73. Kumbakonam	—	—	—	—	—	—	—	N.A.	N.A.	
Eastern Zone										
74. Calcutta	8	1282	12	41	4	60	300	15907	7272	(1) Regional Institute. (2) Extension Centre for footwear (3) Extension Centre for Ceramics (4) Extension Centre for Chrome tanning.
75. Asansol	1	N.A.	—	—	—	—	—	1217	120	
76. Kharagpur	1	N.A.	—	—	—	—	—	538	70	
77. Patna	6	90	5	37	2	70	150	1165	200	(1) Major Institute. (2) Production Centre for hand tools.
78. Ranchi	1	25	3	25	1	10	50	295	102	Extension Centre for leather goods.
79. Dhanbad	1	16	1	2	1	10	50	729	33	Extension Centre for Smithy, foundry etc.
80. Cuttack	2	147	—	—	2	30	150	664	59	(1) Branch Institute. (2) Extension Centre for machineshop, etc.
81. Bhuvaneshwar	—	—	—	—	1	10	50	N.A.	N.A.	Extension Centre for bell metal industries.
82. Bihar Shariff	—	—	—	—	1	10	50	N.A.	N.A.	Extension centre for Carpentry, Smithy, etc.
83. Malda	—	—	—	—	1	10	50	N.A.	N.A.	Extension centre for carpentry etc.
84. Bankura	—	—	—	—	1	10	50	N.A.	N.A.	Extension centre for Smithy, Carpentry etc.
85. Bargarh	—	—	—	—	1	10	50	N.A.	N.A.	Extension centre for Carpentry, Smithy etc.
6. Silchar	—	—	—	—	1	10	50	393	32	Extension centre for smithy, electroplating etc.
7. Jorhat	2	147	—	—	1	10	50	306	13	—do—

1	2	3	4	5	6	7	8	9	10	11
88. Gauhati	1	11	—	—		30	150	N.A.	N.A.	(1) Branch Institute (2) Extension Centre for Smithy etc.
89. Muzaffarpur	—	—	—	—	1	10	50	645	109	Extension Centre for smithy, carpentry etc.
90. Nabadwip	—	—	—	—	1	10	50	N.A.	N.A.	Extension Centre for brass and bell metal.
91. Kalyani	—	—	—	—	1	10	50	N.A.	N.A.	Production Centre.
92. Purulia	—	—	—	—	1	10	50	N.A.	N.A.	Extension centre for small tools & cutlery.
93. Jharsuguda	—	—	—	—	1	10	50	N.A.	N-A.	Extension centre for engineering with foundry.
TOTAL :	145	7701	200	1246	81	1070	5150	105139	21338	

1. No. of towns where Small Industries Service Institutes, Extension Centres or Production Centres of the Ministry of C & I are being set up	... 68
2. Of (1) number of towns surveyed	... 28
3. Of (1) number of towns where Technical Training Institutions are training certificate holders	... 43

1. No. of towns surveyed	... 53
2. Of (1), number of towns where small industrial units offered to accept apprentices	... 42
3. Of (2), number of towns where SISI. or Extension Centres or Production Centres and Technical Training Institutions are located	... 24

4. Of (1), number of towns where information relating to Matriculates and Intermediates seeking employment is available ... **36**

5. Number of towns where Extension Centres and Production Centres, etc. will be located (locations not decided yet) ... **27**

4. Of (2), number of towns where Extension Service Centres are located but no Technical Training Institutions ... **1**

5. Of (2), number of towns where no Extension Centres are located but Technical Training Institutions, training certificate holders exist. ... **13**

6. Of (2), number of towns where information on Matriculates and Intermediates seeking employment is available. ... **20**

7. Of (2), number of towns where neither Extension Centres etc. nor Technical Training Institutions are reported ... **4**

8. The 200 units that offered to accept apprentices and were considered fit for the purpose are spread over 42 towns of which there are 24 in which both technical training institutions and extension service centres, etc., are located ; 13 where technical training institutions are located but no extension centres, etc., one where an extension entre is located but no technical training institution, and fourwhere neither any technical training institution for an extension centre is located. There are eleven towns where no unit has offered to accept apprentices, Information relating to the number of Matriculates and Intermediates seeking employment was available from the D.G.R. & E. for 34 towns out of the 53 mentioned above.

APPENDIX—III

APPRENTICESHIP AND IN-PLANT TRAINING COURSES

(Refer Chapter IV)

Central Government Ministries were approched by this Committee for supply of information on apprenticeship training schemes introduced by them. Information was received for some of the workshops controlled by the Ministries of Production, Defence, Communications, Food and Agriculture, and Transport and it was found that they were training 2,369 apprentices this year as shown in Table 3 (a).

TABLE 3 (a)

Apprenticeship Training Schemes of Some Central Government Departments

	Apprenticeship Strength Reported
Production	78
Defence	166
Communications	515
Food & Agriculture	400
Transport	1210
Total	2369

Source : Information collected by the Committee.

N.B. Table referred to in Para 38 of the Report.

2. D.G.R. & E. has collected some information on apprenticeship courses run by State-owned and private factories. According to their calculations, facilities for training 37,050 apprentices have been provided and 67,050 apprentices would be admitted for training by the State-owned and private factories during the plan period as shown in Table 3 (b).

TABLE 3 (b)

Apprenticeship Training Schemes

Agency	*No. of institutional courses*		*Intake capacity*
Central Government Establishments	392	1,933	
State Government Establishments	111	760	
Private Establishments	1,047	5,078	
*Courses not covered (about 300%)		22,229	30,000
D.G.R.& E. Schemes			7,050
Position for Plan Period : D.G.R.& E. Schemes		7,050	
Other Schemes		60,000	67,050

*The coverage was limited to about 25% of the actual number.
Source:-Information collected by the D.G.R. & E.-1957.
Note: Table referred to in para 38 of the Report.

3. The Craftsmen training programme of D.G.R. & E. includes a six month's in-plant training course for 30,000 trainees at the end of a 1½ year institutional training course. If these courses are properly spread over, 7,500 trainees (30,000 ÷ 4) would be attending workshops at any time.

4. Apprenticeship and in-plant training capacity of 44,550 seats (37,050 + 7,500) would thus be developed during the Second Plan period.

5. As estimated in Appendix VIII, arrangements for training 6·35 lakh persons should have been made to meet the expansion and replacement requirements of the large, medium and small industries during the Second Plan period and wastage during training. In para 3 of Appendix IV, it is estimated that the technical training institutions would be admitting one lakh candidates for direct absorption by factories after training. This leaves 5.35 lakh persons to be trained as apprentices during the Second Plan Period. The annual intake of apprentices should, therefore, have been 1.07 lakh persons, and if the average period apprenticeship training was reduced to 2 years, the number of apprrenticeship seats provided should have been 2.14 lakh

This would be 11.5 per cent of the total force of 18.66 lakh persons (para 11 of Appendix V) and 21.4 per cent of 10.02 lakh skilled and semi-skilled workers in large, medium and small factories.

6. The addition apprenticeship capacity that is still to be developed is, therefore, 1.70 lakh seats. If factories admit apprentices equalling 5 per cent of their total labour force, 48,000 additional seats could be developed as shown in Table 3(c).

TABLE 3 (c)

1.	Apprenticeship capacity to be developed	2,14,000	seats
2.	Seats that would be available at 5% of labour force (5% of 18.66 lakhs)	93,300	,,
3.	Present programme for developing apprenticeship and in-plant training capacity	44,550	,,
4.	Additional seats that could be developed at 5% of the labour force (93,300—44,550) about	48,000	,,
5.	Additional seats that should be developed to meet the total demand (2,14,000—44,550) about	1,70,000	,,

7. If arrangements are made for theoretical training of these apprentices in day-time course, 12 batches would be trained per week, running two shifts a day. The number of seats required for 48,000 apprentices would then be 4,000, and for 1.7 lakh apprentices 14,000.

APPENDIX—IV

DATA ON TECHNICAL TBAINING INSTITUTIONS

The Directorate General of Resettlement and Employment under the ministry of Labour and Employment has been running training courses through 60 training Institutions. In the begining of the Second Five Year Plan, the annual in take capacity under their programme was 12,681 persons or which the capacity for trades listed in Table 4(a) was 10,800 persons. This programme is being expanded so that there would be 30,000 seats provided by the end of the Second Plan period and the total number of trainees that would be admitted during the period is calculated at 65,000. As shown in Table 4(c) the average non-recurring cost per seat in D.G.R.&E. institutions is Rs. 3,775 and recurring Rs. 60 per month.

2. The D.G.R.& E. has also been collecting data on other existing technical training facilities and has received information from a number of institutions in the country that are running training classes in subjects listed in table 4 (a). Technical training is being provided by various Central and State Government departments and agencies and in various forms such as —regular colleges and schools, peripetatic institutions, demonstration parties production-cum-training centres etc., and schemes are also being introduced for establishment of technical sections attached to the schools and colleges normally offering academic courses. As shown in Table 4(b). It is expected that these institutions will admit 1.35 lakh trainees for certificate courses during the Second Plan Period.

TABLE 4 (a)

List of Trades and Industries in which Training is being given in India

(Referred to in Para 32 of Report)

Carpentry
Wood working
Cabinet making
Blacksmithy
Tinsmithy
Metal working
Coppersmithy

Painting & polishing
Enamelling & electroplating

Electrician
Armature winding
Wiremen
Mechanic (Radio)
Grinding
Machinist & Turner
Tool & die making

Millwright
Mechanic (Automobile)
Mechanic (Instrument)

Mechanic (Refrigeration & air conditioning)
Mechanic (Engine)
Mechanic (Aircraft)
Pattern making
Moulding
Soldering, Qalai & Engraving
Gas Welding
Electric welding
Heat treatment
Chemical Industry
Oil Industry
Ink Manufacture
Paint & Varnish Manufacture

Boiler attendant

Boiler maker

Draughhtsmen (Mechanical)

Fitting (General)
Shoe making & other
Leather work
Tanning
Hide flaying
Ceramics
Glass manufacture
Bangles & beads manufacture

Fruit & Vegetable
Preservation & Canning
Hoisery manufacture

Plastic goods manufacture
Sports goods manufacture
Umbrella manufacture

Soap making
Plumbing & Sanitary fittings

Printing & Book binding

TABLE 4 (b)

Annual Inake Capacity of Technical and Vocational Training Institutions for the Year 1956 in Trades Listed in Table 4 (a)

(Refer Chapter III and Para 32 of Report)

S. No.	Trade	Annual intake capacity for certificate courses
1.	Carpentry and wood work, Building and construction.	5,423
2.	Cottage Crafts.	1,064
3.	Engineering and Technology	29,313
4.	Tannery and Leather work.	1,677
5.	Miscellaneous	323
	Total :	37,800
	Deduct figure relating to D. G.R. & E Training Centres incorporated in the above figures	10,800
	Grand Total :	27,000

POSITION FOR PLAN PERIOD—

	INTAKE	OUTTURN (deducting 15% wastage)
D.G.R.& E. Scheme	65,000	55,000
Other Schemes	1,35,000	1,15,000
Total :	2,00,000	1,70,000

Source : D. G. R. & E.

Note : The figures for both diploma courses and certificate coures reported to D. G. R. E. and extracted from the Hand Book of Training Facilities. maintained by the Directorate-General have, to save confusion been combined under the head "Certificate" in view of the fact that the standard definition of the term "Diploma" used in the figures quoted by the Ministry of Education applied only to persons who have received 3 years training with a minimum educational qualification of Matriculation Diploma courses mentioned in the Hand-book do not comply with this definition .

TABLE 4 (c)

Average Estimated cost Per seat in D. G. R. & E. Training Institutes For Technical and Vocational Trades

(a) Tools and Equipment

	Trade	Rs.
1.	Blacksmiths	781
2.	Carpenters	906
3.	Draughtsmen (Mechanical)	438
4.	Electricians	1,234
5.	Electroplators	594
6.	Fitters	1,453
7.	Grinders	6,563
8.	Linemen/Wiremen	765
9.	Mechinists	9,645
10.	Mechanics I.C.E.	2,109
11.	Mechanics Instruments	2,813
12.	Mechanics Motor	2,750
13.	Mechanics Radio	1,125
14.	Mechanics Refrigerators	800
15.	Mechanics Steam	8,188
16.	Mechanics Tractors	4,929
17.	Moulders	438
18.	Painters	288
19.	Pattern Makers	594
20.	Sheetmetal Workers	703
21.	Tool Makers	4,064
22.	Turners	7,562
23.	Watch Repairers	781
24.	Welders (Gas & Elec.)	2,813
25.	Wireless Operators	3,922
26.	Hand-Composition and Proof reading	1,250
27.	Manufacture of footwear	313
28.	Manufacture of household utensils	888
29.	Manufacture of sports goods (leather)	313
30.	Manufacture of sports goods (wooden)	616
31.	Manufacture of sports goods (misc.)	313
32.	Manufacture of suit cases and leather	350
33.	Preservation of fruits and vegetables including confectionery	850
34.	Printing machine operation	3,125
	Total	74,276
	Average per seat for all trades	2,185

(b) Land and Buildings		
Average cost of land and buildings per seat	Rs.	1,500
(c) Other Non-Recurring		
Average per seat	Rs.	90
(d) Total Non-Recurring	Rs.	3,775
(e) Recurring	Rs.	60

Source : D.G.R & E,.

3. Of the two lakh candidates who may be admitted for training as certificate holders during the Second Plan period, 50 per cent i.e. 1 lakh are expected to aim at becoming apprentices and the remaining one lakh to get direct employment after training.

4. The out-turn of certificate holders is expected to be 1.7 lakh persons after allowing for 15 per cent wastage, of which 50 per cent, i.e. 85,000 certificate holders may opt for apprenticeship training and the remaing 50 per cent may get direct employment.

5. In para 35 of the Report, it has been concluded that arrangements should be made to train 1.07 lakh persons as certificate holders to reach the target of 20 per cent of the total apprentice to possess these qualifications. Deducting 85,000 certificate holders, who would be available for apprenticeship training during this period, the additional number required is 22,000 over a period of five years or 4,400 per year. As the average period of certificate courses is two years, and there is an element of 15 per cent wastage during training, the number of additional seats required would be 10,000($4{,}400 \times 2 \times 100 \div 85$). Allowance will, however, have to be made for an equal number of certificate holders getting jobs direct. The total number of additional seats required would, therefore, be 20,000.

APPENDIX—V

EMPLOYMENT STATISTICS IN REGISTERED WORKING FACTORIES—ALL INDIA

Refer Chapter II

A team consisting of the Statistical Officer and two Investigators was deputed to study data available with the Labour Bureau, Simla, and deduce figures for employment in small registered factories. Information was available with them on industrial groups according to International Standard Industrial Classification for all the States in India for the year 1954.

2. The Labour Bureau had tabulated data for the old 10 part 'A' States and 4 part 'C' States of Delhi, Andaman and Nicobar, Ajmer and Coorg. Original returns for factories in other States, available with the Labour Bureau, were tabulated by the above mentioned team and split into two categories (1) large and medium-scale *i.e.* factories employing 50 workers or more if working, with power and 100 workers or more if working without power, and (2) small-scale *i. e.* factories employing less than 50 workers if working with power and less than 100 workers or more if working without power. Data for factories which had been notified under Section 85 (i) (ii) of the Factories Act, was also included. The part relating to capital structure of the definition of small-scale industries could not be applied in the absence of information. As, however, the Board had advised the use of this definition with a certain amount of flexibility, it was decided that the available data could be treated as generally representing the small factory sector.

3. The average daily employment in registered small-scale factories (engaged in industries included in Table 5) submitting returns to the Labour Bureau, Simla, in 1954 was calculated at 3·78 lakh persons and that in large and medium-scale industries 11·74 lakh persons.

TABLE 5

Employment Statistics in Registered Working Factories 1954—All India

Code No.	International Standard Industrial Classification.	Small Scale Working Factories		Large & Medium Scale working factories	
		No. of Factories.	Average daily employment.	No. of factories.	Average daily employment.
1	2	3	4	5	6
01.	Products allied to agriculture (Gins and Presses)	1,229	34,434	1,075	1,07,904
20.	Food except Beverages 203 Canning & Preservation of fruits & vegetables.	7,388	115,187	1,702	3,01,586
21,	Beverages	114	2,197	40	4,508
22.	Tobacco	1,773	64,910	304	84,979
23.	Textiles	2,182	51,467	972	11,06,009
24.	Footwear, other wearing apparel & made up textile goods.	153	3,688	29	11,172
25.	Wood and cork (except Furniture)	714	11,996	136	18,078
26.	Furniture & Fixtures	152	3,080	33	5,735
27.	Paper & Paper Products	72	1,620	51	27,159
28.	Printing, Publishing and allied industries.	1,637	29,152	278	50,719
29.	Leather & Leather products (except footwear)	385	8,405	60	11,450
30.	Rubber & Rubber products.	124	2,663	54	23,134
31.	Chemical & Chemical products.	685	19,034	503	74.960
32.	Products of petroleum and coal.	113	2,995	33	9,816
33.	Non-metallic mineral products (except products of petroleum and coal).	730	19,233	446	1,00,237
34.	Basic metal industries	448	9,696	125	84,842
35.	Manufacture of metal product (except machinery & Transport equipment).	1,212	23,419	195	35,683
36.	Manufacture of machinery (except electrical).	1,327	24,110	295	73,262
37.	Elec. machinery, apparatus appliances and supplies.	143	3,199	80	28,058
38.	Transport & Tran. equipment	757	16,272	371	2,26,254
39.	Miscellaneous Industries	915	18,035	241	1,14,122
	Total :	22,253	4,64,792	7,023	24,99,667

1	2	3	4	5	6
	Factories and employment in Railway workshops	—	—	85	1,11,744
	Total after deducting Railway workshops and Group Nos. 01 & 25	18,842	3,78,891	4,891	11,74,010

Source : Labour Bureau, Simla.

4. The figures relate to only such units as submitted returns to the Chief Inspectors of Factories. The Labour Bureau estimates that roughly speaking the number of factories not submitting returns is near about 10 per cent of the total number of working factories and accounts for about 5 per cent of the total employment *i.e.* an additional 20,000 employees $\frac{(3{\cdot}78\times5)}{95}$ in the small-scale sector and 62,000 employees in large & medium-scale sector. Adding this the average daily employment comes to 3.98 lakh persons in the small-scale sector and 12.36 lakh persons in the large and medium-scale sector.

5. Even after taking into account factories not submitting returns, figures available do not represent the total labour force on rolls. There is an element of absentism in the labour force in industries which is estimated by the Central Statistical Organization at an average of 10 per cent. This will account for an addition 44,000 employees $\frac{(3{\cdot}98\times10)}{90}$ in the small-scale sector and 1.37 lakh persons in the large and medium-scale sector.

6. The total labour force employed in the small registered factories in 1954 would thus be 4.42 lakhs and in the large and medium-scale sector 13.73 lakh persons.

7. From data available for the total number of persons employed in 10 part 'A' and 4 part 'C' States in 1955 (before re-organisation) it is found that there was an expansion of about 4 per

cent in the average daily employment in the total number of factories. There was, however, a reduction of 7 per cent i.e. 31,000 employees in labour force in the small sector and a 6 per cent expansion i.e. 82,000 employees in the large and medium-scale sector. The total labour force in small industrial sector during 1955 would, therefore, be of the order of 4.11 lakh persons and that in the large and medium-scale sector 14·55 lakh persons.

8. The Central Statistical organisation is of the opinion that normal replacement of workers in factories due to death, retirement, sickness, etc. is of the order of 4 per cent. Annual replacement in small industrial factories with 1955 as the base year would be 16, 400 and total replacement of labour force in this sector during the Second Five-year would, therefore, be 82,000 persons. The total replacement in the large and medium scale sector would be 2.91 lakh persons.

9. The rapid study of over 400 small industrial units conducted by the Committee revealed that at an average skilled and semi-skilled worker in small-scale workshops would account for about two-thirds of the total labour force (Appendix II). The total replacement demand for skilled and semi-skilled workers for this sector during the second Five Year Plan, would, therefore, be 55,000 persons.

10. A study of over 800 large and medium-scale factories from data available with .the Development Wing indicated that the skilled and semi-skilled workers in these Factories accounted for about half of the total labour force (Appendix VI). The replacement demand of skilled and semi-skilled workers would, therefore, be 1.46 lakh persons.

11. The total labour force in large, medium and small scale factories in selected industries as shown in Table 5 was approximately 18.66 lakh persons in 1955, of which the total number of skilled and semi-skilled persons was about 10.02 lakh (two thirds of 4.11 plus half of 14.55). The total replacement requirement of these factories for the second period was about 3.73 lakhs persons of whom that for skilled and semi-skilled workers was about 2 lakh persons.

APPENDIX—VI

DISTRIBUTION OF LABOUR FORCE IN SELECTED LARGE AND MEDIUM SCALE INDUSTRIAL UNITS

(*Refer Chapter II*)

The Development Wing of the Ministry of Commerce and Industry have been collecting monthly production returns from some large and medium scale industrial units. The data includes average daily employment figures for these factories with a break-up for skilled, semi-skilled and unskilled workers. Reports on 831 units in industries listed in Table No. 6 were available for 1956. It will be seen that the average number of skilled and semi-skilled worker in these factories works out to about half of the total labour of these factories. Though separate figures for skilled workers are also available, it is hazardous to estimate the percentage for these workers as no standard definition has been used.

TABLE 6

Distribution of Labour Force in Selected Large And Medium Scale Industrial Units

Sl. No.	Industry	No. of units surveyed	No. of skilled workers	No. of semi-skilled workers	No. of unskilled workers
1	2	3	4	5	6
	Mechanical & General Engineering				
1.	Bicycles (complete)	13	1827	2528	1571
2.	Bicycles (parts)	11	59	117	88
3.	Crown cork	4	13	31	37
4.	Duplicators	2	457	116	91
5.	Hurricane Lanterns	7	246	544	821
6.	Oil pressure lamps	3	68	156	220
7.	Sewing Machines	2	558	1419	309
8.	Belting: (a) Hair & Cotton	50	201	102	38
	(b) Rubber Transmission & conveyor	2	N.A.	N.A.	N.A.
9.	Conduit pipes	4	46	44	100
10.	Machine screws	2	110	236	217
11.	Welding electrodes	2	13	22	170
	Diesel Engines & Pumps				
12.	Diesel engines	11	892	783	839
13.	Power driven pumps	16	487	994	573

1	2	3	4	5	6
	Tools				
14.	Machine tools (complete)	6	382	886	881
15.	Grinding wheels	2	121	255	440
16.	Razor blades	1	24	10	5
17.	Twist drills	1	26	361	33
	Electrical Engineering Industries **Cables & Wires**				
18.	Aluminium conductors, bare copper conductors, rubber and plastic insulated cables and flexible and winding wires	17	769	671	1809
19.	Dry cells	5	231	229	1852
20.	Electric fans	17	798	2363	712
21.	Electric motors	11	513	1108	1009
22.	Power transformers	10	587	1005	639
23.	Radio receivers	12	459	433	617
24.	Storage batteries	7	281	360	788
	Metallurgical Industries				
25.	Virgin metal : Copper	1	330	256	366
26.	Lead	1	95	—	56
27.	Antimony	1	48	2	60
	Semi-manufacturers				
28.	Aluminium sheets/circles	4	Labour in respect of 3 units is common with those of copper brass sheets/circles industry and that of two units with the Aluminium Industry.		
29.	Arsenical copper rods	1	14	85	88
30.	Brass/copper sheet/circles	8	357	567	913
31.	Brass/copper pipes and tubes	1	60	67	76
32.	Lead pipes and tubes	3	2	5	11
33.	Zinc sheets/strips	2	Labour common with those of brass/copper sheets industry.		
34.	Brass/copper similar alloys	1	Labour common with those of brass, copper pipes and tubes industry.		
	Chemical Industries				
35.	Sulphuric acid	11	481	293	629
36.	Soda ash	2	2005	1680	3878
37.	Caustic soda	10	Shown in Soda ash industry.		

1	2	3	4	5	6
38.	Liquid chlorine	7	Shown in soda ash industry		
39.	Bleaching Powder	3	Shown in soda ash industry		
40.	Coppe rsulphate	1	Shown in suplhuric acid industry		
41.	Sodium sulphide	1	,,	,,	
42.	Super Phosphates	5	,,	,,	
43.	Bichromates	1	,,	,,	
44.	Ammonium sulphate	2	,,	,,	
45.	Glycerine refined	5	Included in Soap Industry.		
	Liver Extracts				
46.	Injections	11	49	54	25
47.	Orals	12	N.A.	N.A.	N.A.
	Paints				
48.	Paints	35	560	429	2014
49.	Zinc Oxide	2	13	76	130
50.	Welding gases				
	(a) Oxygen	3	91	156	839
	(b) Acetylene	3			
	Other Industries				
51.	Soap	17	508	632	2532
52.	Matches	46	1086	2925	4103
	Glass, Glassware & Enamelware				
53.	Laboratory glassware	3	2182	4202	6511
54.	Glass shells	3	478	148	478
55.	Enamelware	3	178	124	356
56.	Other glassware	56	Included in "Laboratory glassware industry."		
	Pottery (Excluding Refractories)				
57.	Stoneware pipes / jars	10	1457	1606	3840
58.	Whiteware (including crockery)	21	Shown in Stoneware Industry.		
59.	Sanitaryware	10	-do-		
60.	Glazed tiles	3	-do-		
61.	Electrical Porcelain (a) H.T.	3	-do-		
	(b) L.T.	7	-do-		
	Refractories & Cement				
62.	Refractories	25	1728	3029	6486

1	2	3	4	5	6
63.	Asbestos Cement sheets	5	181	827	2549
64.	Cement	28	5834	5340	12840
	Food Industries				
65.	Flour milling	11	211	197	767
	Plywood				
66.	Tea chests	34	1230	698	2245
67.	Commercial	49			
	Leather Industries				
68.	Vegetable tanning & hides	20	4436	883	2157
69.	Chrome tanning of hides	10	as shown above.		
70.	Western types of leather footwear	8	,,		
7I.	Indigenous type of leather footwear	8	,,		
72.	Glue	9	37	28	268
73.	Incandescent lamp (filament)	11	695	637	908
74.	Flourescent lamps	1	as shown above.		
75.	Electrical Steel sheets	I	N.A.	N.A.	N.A.
76.	House service meters	5	131	109	54
77.	Domestic refrigerators	2	40	13	2
78.	Tea Processing machinery	2	1101	471	262
79.	Jute mill machinery	4	1377	502	397
80.	Cigarette	5	329	679	2070
81.	Power Alcohol	4	260	275	882
82.	Paper & Paper board	7	547	670	2656
83.	Rectified spirit	2	N.A.	N.A.	N.A.
84.	Denatured spirit	2	N.A.	N.A.	N.A.
85.	Sheet Glass	4	296	443	749
86.	Linoleum	1	53	...	103
	Plastic Goods				
87.	Injection moulding	38	360	644	1184
88.	Compression moulding				
89.	P.F. moulding power	2	2	6	53
90.	Leather cloth	3	43	92	244
	Total :	831	38,053	43,623	77,642

Source : Development Wing.

APPENDIX—VII

DEFINITION AND CLARIFICATION OF CERTAIN TERMS USED IN THE REPORT

(*Refer Chapter I*)

1. *Apprenticeship Course* means a training course introduced by the D.G.R. & E., other Central and State Government Departments, State owned factories or private factories, for training of persons on machines in workshops with or without arrangements for classes on theory.

2. *In-plant training*. This term has been used for organised courses of workshop practice by students of a regular institutional course in a technical training institution which envisages a compulsory period of such practice.

3. *Large and medium-scale industries* include all factories employing 50 workers or more if working with power and 100 workers or more if working without power, and also all factories with a capital of more than Rs. 5 lakhs. While considering factory statistics capital structure has, however, not been taken into consideration because only employment figures were available from the Labour Bureau, Simla. The term large and medium-scale industries also exclude textile industries, gins, presses and Railway workshops. The Railway provide their own training facilities and in the Textile Industries and gins and presses, the anticipated expansion is very samll compared to the labour force employed. Moreover, these industries have been excluded from the definition of Small Scale Sector also.

4. *Skilled and semi-skilled* workers are persons who are normally regarded as such by usage by different industries.

5. *Small-Scale Industries*. Units with capital of not more than Rs. 5 lakhs and employing less than 50 workers if working with power or less than 100 workers if working without power are treated as small-scale industries. In practice, textile industries, other than hosiery, coir, industry, handicrafts and village industries covered by the programme of the Khadi & Village Industries Commission are,

excluded from consideration as Small Scale Industry. We have, however, accepted factory statistics even in respect of units with a capital of over Rs. 5 lakhs provided they come within the employment limits. Table 2(a) may be seen for a detailed list of industries included under the term "Small Scale."

6. *Technical Training Institutions.* This term has been used generally for all educational institutions conducting technical courses and awarding Degrees, Diplomas or Certificates.

7. *Unorganised training by factories.* This term has been used for *ad hoc* arrangements made by factories to train their personnel by placing them under experienced workmen first as helpers and later as under-studies, so that unskilled workers get trained as semi-skilled workers and semi-skilled workers as skilled workers in course of time.

APPENDIX—VIII

DEMAND FOR TRAINING

(*Refer Chapter II*)

Additional employment in the small-scale industries sector during the Second Plan period is estimated at 1·4 lakh persons by the Planning Commission. Adding replacement requirements of 82,000 persons to this (Appendix V), the working force requirements of small industries would be 2·22 lakh persons. The number of skilled and semi-skilled workers out of these would be two thirds *i. e.* 1·48 lakh persons, based on conclusions arrived at in para 4 of Appendix II. Average wastage during training calculated at 15 per cent would account for 26,000 persons 1·48×15÷85. Arrangements for training 1·74 lakh persons (1.48+.26) 1185 should, therefore, be made to meet the total demand for expansion and replacement and take into account normal wastage during training.

2. Additional employment that may be generated in the Second Plan period in large and medium-scale industries included in Table 7 is estimated at 4.92 lakh persons by the Planning Commission.

TABLE 7.

Lisit of Large and Medium Scale Industries whose Expansion has been taken into Consideration in this Report

(*Referred to in Para* 25 *of the Report*)

1. Cement
2. Sugar.
3. Fertilizer.
4. Finishid Steel & Fabrication of steel.
5. Heavy foundry-cum-forges.
6. Ferro Manganese
7. Ball & Roller bearings.
8. Industrial Machinery.
9. Automobiles Motor Cycles.
10. Locomotives (Private Sector)
11. Aluminium.
12. Lignit.
13. Heavy Electrical equipment.
14. Ship Yard.
15. D.D.T.
16. Salt.
17. Sulphuric Acid.
18. Soda Ash,
19. Caustic Soda.
20. Calcium Carbide,
21. Dyestuffs & Intermediaries.
22. Petroleum Refinery.
23. Newsprint Paper & Paper Board.

24. Refractories.
25. Plastics & Synthetic Moulding Powder.
26. Vegetable Oils.
27. Power Alcohol.
28. Starch & Glucose.
29. Soap.
30. Potassium Chlorate.
31. Industrial Explosives.
32. Carbon Disulphide.
33. Carbon black.
34. Other misc. heavy chemicals.
35. Coal-tar distillation.
36. Rubber tyre.
37. Pharmaceuticals.
38. Diesel Engines.
39. Power Driven Pumps.
40. Sewing machines.
41. Haricane lantern.
42. Bicycles.
43. Electric Motors.
44. Transformers.
45. Storage Batteries.
46. Dry batteries.
47. Radio Receivers.
48. Conductors.
49. Electric Fans.
50. Coated abrasives.
51. Grinding wheels.
52. Glass and Glassware.
53. Machine tools.
54. Penicillin.
55. Cables.
56. Electric lamps.

3. Of these the number of skilled and semi-skilled persons would account for 2.46 lakhs, based on conclusions arrived at in Appendix VI. Adding the replacement demand of 1.46 lakh skilled and semi-skilled workers as calculated in para 10 of Appendix V to this, the working force requirements of the large and medium scale sector would be 3.92 lakh persons. Wastage to get these persons trained would account for 69,000 persons. Arrangements for training 4.61 lakh persons (3.92+ 69) should, therefore, be made to cover expansion and replacement demand of this sector and wastage during training.

4. To meet the expansion and the replacement requirements of both the large and medium and small industries sectors during the Second Plan period and wastage during training, arrangements for training 6.35 lakh persons should be made (1.74+4.61).

APPENDIX—IX

COST OF IMMEDIATE PROPOSALS

(Refer Chapter VI)

The training capacity that can be developed on the lines suggested in paragraphs 80 and 82 of Chapter VI would be of the following order.

Institution		1ST YEAR		When capacity fully developed	
		Trainees		Trainees	
Type	No.	For skilled jobs	For supervisory jobs	For skilled jobs	For supervisory jobs
1. Extention Service Centre	60	600	...	3000	...
2. Major and Branch Institute	14	280	...	1400	...
3. Regional Institute	4	120	...	600	...
4. Production Centres	17	850	170	850	170
TOTAL ...	95	1850	170	5850	170

2. Calculating stipends at Rs. 60 per month for apprentices for skilled jobs and Rs. 150 per month for supervisory jobs, the annual recurring cost would be of the following order.

	During first year	*When full capacity is developed*
	(Rs. in lakhs)	
1. Stipend for apprentices for skilled jobs	13·32	42·12
2. Stipend for apprentices for supervisory jobs.	3.06	3,06
Total...	16.38	45.18

3. Raw materials etc., required for training purposes at the rate of Rs. 15 per trainee per month would cost Rs. 3,63,600 during the first year and Rs. 10,83,600 when full capacity is developed.

4. 124 instructors will be required for training 1,850 apprentices for skilled jobs at the rate of one instructor for a batch of 15 trainees and 390 for training 5850 apprentices. In addition, 17 Deputy Managers incharge of Training would be necessary at the Production Centres as stated in para 65 of the Report.

5. It is suggested in para 59 of the Report that 20 per cent of the instructors would be in the grade of Rs. 120-8-200 ; 60 per cent in the grade of Rs. 275-25-500 and 20 per cent in the grade of Rs. 350-25-500-30-800. The average cost per instructor per trainee per month would therefore, be Rs. 25 on the following basis :

1.	Cost per instructor per month in the scale of Rs. 120-8-200 after allowing one increment (including allowances)	Rs. 208/-
2.	Cost per instructor per month in the scale of Rs. 275-25-500 after allowing one increment (including allowances)	Rs. 398/-
3.	Cost per instructor per month in the scale of Rs. 350-25-500-30-800 after allowing one increment (including allowances)	Rs. 474/-
4.	Average cost of 5 instructors per month 20% of category (1) 60% of category (2) and 20% of category (3) (Rs. 208+1194+474)	Rs. 1876/-
5.	Average cost per instructor per trainee per month @ 1 instructor for 15 trainees $\frac{(1876)}{5 \times 15}$	Rs. 25/-

6. The average cost of a Deputy Manager would be Rs. 600/- per month.

7. The following would therefore, be the annual recurring cost on instructors :

	During the first year. Rs.	*When full capacity is developed* Rs.
1. Cost of instructors for apprentices for skilled jobs.	5,58,000	17,55,000
2. Cost of Deputy Managers at production centres.	1,22,400	1,22,400
Total	6,80,400	18,77,400

8. The non-recurring cost per apprentice in a training centre attached to a factory has been calculated at Rs. 4,000/- as stated in para 64 of the Report. Accepting this basis for this programme also, and assuming that additional equipment and buildings are required for all apprentices so that production work is not disturbed, the cost, under this head would be Rs. 240·8 lakhs for training 5,850 apprentices for skilled jobs and 170 for supervisory jobs.

9. The cost of training 250 proprietor-managers in small units would be Rs. 6·06 lakhs at the rate of Rs. 202/- per month, as calculated in para 91 of the Report, and the cost of 200 instructor-trainees referred to in para 92 of the Report would be Rs. 5,32,800/- at the rate of Rs. 222/- per month.

10. The total cost of the immediate programme would, therefore, be Rs. 240·8 lakhs non-recurring and Rs. 86·17 lakhs recurring per year when full capacity is developed.